PHILADELPHIA, OCTOBER 31, 1885.

ORIGINAL LECTURES.

CLINICAL LECTURE
ON THE VARIOUS FORMS OF SCLEROSIS OF THE SPINAL CORD.

Delivered at the Hospital of the University of Pennsylvania

BY WILLIAM PEPPER, M.D., LL.D.,

Provost of, and Professor of the Theory and Practice of Medicine and of Clinical Medicine in, the University of Pennsylvania.

Reported by WILLIAM H. MORRISON, M.D.

GENTLEMEN,—I propose to devote the hour to the study of sclerosis of the spinal cord, of which there are three principal varieties. The first that I shall consider is sclerosis of the lateral columns, or antero-lateral sclerosis. Where the sclerosis of the lateral columns extends into the gray matter so as to involve the nerve-cells, and is associated with muscular atrophy, it produces the affection known as amyotrophic lateral sclerosis, which, however, is simply a complication of lateral sclerosis. The second variety is where the sclerosis is not limited to one column, but occurs in patches scattered irregularly throughout the cord, and sometimes extending into the brain. This is disseminated, insular, or cerebro-spinal sclerosis. The third variety is sclerosis of the posterior columns, or, as it is often termed, from its characteristic phenomenon, progressive locomotor ataxia.

Sclerosis, as you are aware, is a morbid change in the nerve-substance, attended with a breaking down and atrophy of the nerve-fibres, with overgrowth of the interstitial connective tissue. Sclerosis is on the border-line between chronic inflammation and degeneration. The sclerosed parts are grayish, somewhat translucent, and rather smaller than normal.

The causes of sclerosis of the spinal cord are exposure to wet and cold, prolonged overtaxing of the nervous system, particularly of the spinal cord, and excesses in venery. Syphilis is a common cause of sclerosis, and perhaps more particularly disposes to posterior sclerosis; but I warn you not to think in every case of sclerosis, even where there is a history of syphilis, that syphilis is the essential cause of the sclerosis, since the other causes of sclerosis may operate as readily in a person with constitutional syphilis as in one who has not this taint. Sclerosis may also be produced by the extension of a neuritis. The peripheral nerves may become the seat of inflammation, which, creeping upward, invades the cord and lights up a slow process of chronic inflammation and degeneration, ending in sclerosis.

The symptoms of sclerosis of the spinal cord are best studied under the three heads already given. The symptoms of lateral sclerosis are, in the first place, progressive loss of power, not amounting to complete palsy. In the second place, muscular tremor, particularly when the muscles are thrown into action. With this there is muscular twitching and a disposition to contraction. In the third place, increase in the reflex irritability, which may be tested by the knee-jerk. There is also increase in the electro-muscular irritability. Ordinary sensation is not affected. The patient's gait is peculiar, on account of the rigidity of the muscles, but he can walk as well with his eyes shut as with them open. There are no pains connected with this affection, neither darting pains nor the girdle sensation.

The patient now before us illustrates this form of sclerosis. The following history has been obtained:

H. S., aged 28 years, single, is an engineer by occupation, and had been working on a railroad in Wyoming Territory until three or four months ago, when he came to this city. When a child he had diphtheria, which was followed by dropsy and paralysis. Later he was thrown on a hot stove and severely burned, the scar being visible on the epigastrium. When twenty-two years of age he had typhoid fever. He denies having had gonorrhœa or syphilis, although intercourse with loose women is acknowledged. Careful investigation fails to reveal any trace of specific infection. He has used alcohol in considerable quantities, but has never been intoxicated. He uses tobacco in great excess, smoking as many as fifteen cigars on some days, and chewing a large plug of tobacco every twenty-four hours.

His occupation has been an exposing one, subjecting him to extreme alternations of heat and cold. He, however, continued in good health until three years ago. In December, 1882, he first noticed a gradual loss of power in the left ankle. He states that five months prior to this he had injured the left ankle and knee by falling from his locomotive. This kept him in bed for seven days, then ap-

parently became entirely well. This feeling of weakness on the left side compelled him to throw most of his weight on the right leg. The trouble gradually grew worse, and in November, 1883, he noticed that occasionally the affected leg would suddenly fly backward when he attempted to move it, and that the muscles of the left side would tremble violently in a quick clonic spasm. Unless he moved very carefully, this occurred at every step. He next observed that he was losing flesh. His height is six feet one and one-half inches, and his best weight has been one hundred and seventy-nine pounds. Three months ago, when this note was made, he weighed one hundred and sixty-five pounds.

In July, 1884, the affected ankle was strained, and this was followed by swelling of the foot and leg. About this time, or a little earlier, he noticed that the fingers of the left hand were disposed to contract, so that the hand would remain closed until the fingers were forcibly extended. The contraction was increased by fatigue. This gradually grew worse, until it involved the hand, forearm, arm, and shoulder. All the muscles of the arm would quiver when he became tired from exhaustion. In addition, he had a peculiar numbness or tingling over the left side. This is sometimes described as the feeling of pins and needles, and is frequently complained of by patients with nervous affections, particularly when the spinal cord is involved. Some days the patient feels better than on others, and is able at times to walk two or three squares.

During all this time the man has had no severe pain, although he has had occasional vague pains in various parts of the body; but there has been no fixed pain, and no darting, severe, sharp pain, nor has he had any sense of constriction about any part of the chest. His memory is good, and he sleeps well. The appetite is sometimes rather poor, although at times voracious; then he overloads the stomach, and suffers with vomiting. The bowels are constipated. He has occasional palpitation of the heart. The heart beats rather actively, but somewhat irregularly, losing a beat in every ten or fifteen pulsations. The second sound is accentuated, but there is no distinct murmur. There is a trace of albumen in the urine, very slight, however, and diminishing. There are no tube-casts, but a few pus-cells with epithelium from the bladder, so that I regard the albumen as due to the admixture of a little pus with the urine, and not as an indication of renal disease.

There is a little wasting of the muscles of the left side. The following measurements have been taken:

	Right. Inches.	Left. Inches.
Calf	14½	14
Forearm . . .	11¼	11
Biceps . . .	11¼	11¼
Thigh	19	18

When the left biceps is contracted it is not nearly as prominent as the right muscle. There is then a slight diminution in the size of the right side; but when we remember that the man has been throwing his weight on the right leg, and has been using the right arm more frequently than the left, this wasting is no more than would be expected.

Let us note his condition to-day. His right side has not been involved, but he now states that lately there have been shooting pains in the right arm and leg, and that there is some slight twitching of the fingers of the right side. Examining the left arm, we find that there is almost complete paralysis of the shoulder-muscles. The biceps has some power, but the triceps has very little. The extensor of the little finger responds, but the common extensor is almost completely paralyzed. There is more power in the flexors, but this is much impaired. Looking at the muscles of the thigh, we see a marked quivering or fibrillary contraction.

Another marked symptom in this case has been the tendency of the muscles to jerk, so that unless great care were exercised there would be a sudden drawing back of the muscles of the leg when he attempted to advance the foot. This is connected with an increased irritability of the muscle. This, for convenience, is studied by examining the patellar reflex, or, preferably, the knee-jerk. In the normal limb the foot is thrown out when the tendon of the ligamentum patellæ is struck. This is connected with a reflex process, the sensation being transmitted to a segment of the spinal cord, and thence an impulse is carried to the muscles, causing movement. The preservation of the knee-jerk is an evidence of the integrity of this reflex loop from the knee to the spinal cord, and out again to the muscles. It therefore serves as a diagnostic sign of the condition of the spinal cord up to a certain level. There are other reflexes by which the condition of the cord at different levels may be tested. In this man there is a distinct increase in the knee-jerk on the right side, and on the left side it is even more increased.

We have, then, in this man progressive loss of power, unilateral, without affection of the head; fibrillar contractions and tremor of the muscles when they are thrown into action; increased irritability of the muscles, as shown by exaggerated

reflexes; a tendency to contraction; very slight atrophy of the muscles, and a feeling of numbness in the affected part. This affection has been progressive, beginning in the ankle and extending thence to other portions of the left side, and there is now reason to fear that the right side is becoming affected.

I regard this as a case of progressive sclerosis of the antero-lateral columns of the cord, affecting the left side and now extending to the right.

When the sclerosis extends into the gray matter, atrophy is added to the symptoms already mentioned. This, as I have said, constitutes amyotrophic lateral sclerosis. It not infrequently happens that the affection extends upward, involving the pons, and there are then associated symptoms of paralysis of the labio-glosso-laryngeal type, with difficulty of swallowing and failure of voice, and ultimately the sclerosis may involve the brain.

The course of this disease is slow, the cases lasting for years: its tendency is, however, to steady progression. It may involve to some extent the other side. As you know, there is a partial decussation of fibres throughout the spinal cord. Although the chief decussation occurs at the pons, there is at different levels of the spinal cord a partial decussation; consequently, when there is extensive lesion of one side, some of these decussating fibres may be affected, and symptoms referred to the other side appear. This man, as you have heard, shows some symptoms of involvement of the right side. The special senses are unaffected.

I shall reserve my remarks on prognosis and treatment until I have finished the discussion of the other two cases.

I shall next speak of insular or disseminated sclerosis. In this variety the patches of sclerosis are scattered throughout the nervous system. Instead of one column being involved uniformly, the spots of hardening are disseminated throughout the cord. These patches of sclerosis may involve the spinal cord alone, hence spinal sclerosis; or they may involve the brain alone, hence cerebral sclerosis; or, as is more usual, they may involve both the cord and the brain, hence cerebro-spinal sclerosis.

The causes and the morbid anatomy are the same as in sclerosis of the lateral columns. The disease begins gradually, one of the first things noticed being usually a tendency to tremor of the muscle and irregular action, but not true ataxia. Sensation is, as a rule, not affected, pain is absent, and the girdle sensation is wanting. The reflexes are exaggerated, and so is electro-muscular contractility. After the disease has lasted for some time, there is a tendency to involvement of the cerebral centres. The mind becomes affected, the memory fails. Sometimes delusions are present. From time to time acute attacks appear which resemble attacks of cerebral congestion, and sometimes simulate apoplectic attacks. There is usually with these high fever. They last a few days and then subside, leaving the patient worse than before, showing that there has been a development of fresh centres of disease. In these cases there is unsteadiness of gait, but the patient is able to walk about as well with his eyes shut as with them open.

Our second patient is 33 years of age; married at the age of nineteen; is the father of five children, four of whom are living and healthy. He denies having had venereal disease. Seven years ago he had a severe fall, striking on a fence. For six years he has had a hot, full feeling in the head. His gait has been growing more unsteady for years. There have been no fulgurant, excentric pains, and no girdle sensation. At first there was numbness in the hands and feet. There is still some numbness in the hands when they are immersed in water. He eats well and sleeps well. The urine is normal. The trouble in the head came first, then the unsteadiness of gait was noticed. Both the arms and legs are affected, but the latter to a more marked extent. At times he has had vertigo, and his sight has been failing for about four years. There was first double vision and then indistinctness. He states that at intervals he seems to take cold, and afterwards the symptoms are worse.

Both the arms and the legs become tremulous on any attempt at sustained motion. This is most marked in the right leg. There is no atrophy. He has not lost weight. The muscles respond normally to the galvanic current, but a little less than normally to the faradic current. There is slight impairment of the cutaneous sensibility.

The pupils are equal, and respond normally to light. The eyes have been examined by Dr. Norris, who reports that there is partial atrophy of the optic nerve on both sides and that there is contraction of the field of vision. There is no hemiopia and no scotoma. The hearing is normal, the intellect seems to be unimpaired, and memory is good.

We observe from a study of this case that in disseminated sclerosis the symptoms are less regular than in pure lateral sclerosis. Sensibility, as in this man, is sometimes affected, showing that little islets of sclerosis exist in the posterior columns. There are also cerebral symptoms, as shown by the condition of vision and by the emotional and irritable mental condition of the patient. From time to time he has the feverish attacks to which I have referred. These he has attributed to catching cold. In some cases the exacerbations are very severe, and are attended with high fever and even with unconsciousness. Each of these attacks leaves the disease more advanced.

In these two cases the sclerosis chiefly affects the antero-lateral or motor columns of the cord. In the second case, however, there is also some involvement of the posterior columns, as shown by the interference with sensation.

Our next patient will illustrate the third form of sclerosis,—that is, sclerosis of the posterior columns, or progressive locomotor ataxia. The causes of this affection are the same as in the other forms of sclerosis, but in these cases I should attach special importance to the influence of exhaustion from venereal excesses.

In this affection there is what is often termed a pre-ataxic stage, in which the symptoms are chiefly those of irritation. There may be attacks of violent headache resembling sick headache. In other instances there are attacks of acute gastric disturbance termed gastric crises. In such cases the patient is seized with violent and inexplicable disturbance of the stomach, with repeated vomiting. This stage is also marked by disturbed sleep and impaired energy.

Then comes the stage of fulgurant excentric pains. The patient begins to complain of pains darting from one part of the body to another. These are unattended with any signs of inflammation in the affected part. They remain a short time, disappear, and return in another location. There may be with these some rheumatic pains which are more persistent. Next, impairment of sensation is noted. There is numbness and tingling in the legs. Often the soles of the feet are affected, and the patient feels as though walking on a soft carpet or on cotton. Examination shows that there is actual impairment of sensation. The sense of pain also may be diminished. The anæsthesia may be irregularly distributed. There may be here and there spots of diminished sensation, while the sensation of the remaining portions of the limb is normal. The patient may also complain of a girdle sensation around the waist.

Then comes the ataxia, or the incoordination of muscular movements. The strength of the limbs may be perfectly retained, and while sitting the patient may be able to kick out his leg with great force, but when he endeavors to co-ordinate his movements, as in walking, uncontrollable contractions of the muscles of the legs are produced, rendering the gait peculiar and unsteady. If the arms are affected, delicate movements with the hands are impossible. This want of co-ordination is not paralysis, for there is no true paralysis in this disease. The trouble lies in the posterior columns of the cord which carry the impression from the nerves up to the brain, which serves as the stimulus causing a motor impulse to be sent out through the anterior columns, producing co-ordinated movement. These posterior columns are diseased and their fibres irregularly wasted, the sensations are transmitted irregularly and imperfectly, and the motor impulses are correspondingly irregular and imperfect. When the patient attempts to walk, which requires the co-ordinated movement of a large number of muscles, there are irregular contractions of the different muscles and the movements of the extremities become uncontrollable. If the condition is marked, walking becomes impossible. The patient soon has to use a cane, and keep his eyes on his feet when walking. Frequently a man who can walk pretty well while watching the ground will instantly fall if he closes the eyes. Often the first thing that attracts the attention of the patient is the inability to walk in the dark.

The sclerosis follows the course of the posterior columns upward. Beginning with the lower extremity, the muscles are involved at higher and higher levels until the arms are affected. Then disorders of vision, such as diplopia and amaurosis, are often noticed. Ataxia of the globes may be present, so that when the patient attempts to turn his eyes in a particular direction the natural co-ordinated movements are not performed, but the globes

are twisted in different directions. The bladder frequently suffers, and there is partial retention or, on the other hand, incontinence of urine. The expulsive power of the rectum becomes more or less impaired, and retention of fæces is at times a troublesome symptom.

The muscles do not waste to any great extent, but their electro-irritability diminishes. The reflex irritability diminishes decidedly, so that the knee-jerk may disappear. From time to time acute symptoms appear, which, subsiding, leave the condition worse, marking an extension of the disease.

The third patient is F. M., age 54 years, and a carpenter by occupation. His family history is good. He has been a hard-working man. There has been no venereal disease and no sexual excess. For the past five years he has had stabbing pains in the backs of the legs. He has also had the sensation of a cord bound around the waist. He has noticed considerable difficulty in walking in the dark, especially over a rough road. His sight is failing, and sexual desire is lessening. Memory is also failing. The pupils do not respond promptly to light. The sensation seems to be pretty well preserved. Examination shows that the knee-jerk is entirely absent on both sides. Testing the man's ability to stand and walk with his eyes shut, we find that he is able to do this fairly well.

He is evidently in an early stage of this affection, which is excessively slow in its progress. I have seen it run its course in three years, and I have patients under my care who have been ataxic for twenty years or longer.

This loss of reflex irritability is a very important symptom. At the same time, I am not willing to accept the statement of certain authors as to the positive value of loss of the patellar reflex as a proof of established posterior sclerosis. I have seen absent knee-jerk in several conditions of functional spinal disorder, which recovered perfectly and in which there was return of the normal knee-jerk. I have found it in cases of alcoholic paresis and in tobacco paresis. I have seen it in some cases of congestion where organic disease had not been fully established. While I regard the loss of the knee-jerk as a very important sign, and while I regard it as of high diagnostic value when conjoined with stabbing pains, the girdle sensation, failing sight, and difficulty in walking in the dark, yet I hold that the diagnosis of established posterior sclerosis cannot be made from this symptom alone. An active business-man came to me in a state of great alarm, having been told that he had locomotor ataxia. There was nothing to indicate this except a total loss of the patellar reflex. A winter in Florida brought it back.

[The patients were removed.]

We have had, then, illustrations of the three forms of spinal sclerosis. It yet remains for me to speak of the prognosis and treatment. The prognosis in all these forms of disease is exceedingly unfavorable. Their course, though slow, is nearly always progressive. They may extend over a period of from two to twenty or more years. In some cases, however, the disease is arrested. This is true of posterior and lateral sclerosis at least. Of course, in a fully-developed case we rarely can do more than palliate the symptoms.

Where there is marked atrophy and degeneration of the muscles, there is reason to believe that the disease has extended to the gray substance of the cord. In these cases the prognosis is even more unfavorable and the course more rapid than in the other varieties of sclerosis of the spinal cord.

In the treatment of these affections, rest is of importance. The nervous system is weak and irritable, and rest is essential. In fact, rest in bed, when it can be secured, often exerts a powerful influence in checking the progress of the case. I like to confine patients to bed for from sixty to ninety days. This has often mitigated the symptoms to a remarkable degree. When absolute rest is not available, there should be avoidance of exertion, excitement, and fatigue. In these cases too much must not be insisted on. The treatment must be based on a study of the moral as well as the physical condition of the patient, and must be pursued with tact and discretion. Careful avoidance of exposure to damp and cold must be insisted upon. The diet and dress should also receive attention.

If there be a history of syphilis, although you may not feel convinced that the disease has resulted from this taint, yet you will give the patient the benefit of the doubt, and will use antisyphilitic treatment vigorously until you have determined its capacity for good. The iodide of po-

tassium in large doses will usually be found of more service than mercurial preparations. By large doses I mean from ten to thirty grains four times a day. This should not be pursued in a routine manner; but, if there is no evidence of benefit, it should be stopped.

Other alteratives are at times useful. Nitrate of silver has seemed to me to exert a positive influence over the fulgurant pains. I use it in the early stage of posterior sclerosis, where these pains are present. I give it in full doses in quite long courses, alternating it with iodide of potassium in non-syphilitic cases. In syphilitic cases I push the iodide continuously, even if I give the nitrate of silver at the same time. Chloride of gold and silver, which possess some alterative power, has been highly recommended by some authors, but in my judgment it is of much less value than nitrate of silver.

Various alkaline preparations have been used with the idea of inducing absorption at the seat of disease; but I know of no clinical evidences to support this method of treatment. The remedies which I have mentioned I believe to be the most useful.

Special attention must be paid to the secretions, and the condition of the bladder and bowels must be watched.

Counter-irritation I think is useful. I prefer the use of the actual cautery. In the first case, where I think there may be involvement of a nerve-trunk, I have applied it over the sciatic nerve and over the cord. In the second case I have applied it at the base of the brain and over the cervical region. I should select one or other of these points according to the type of disease.

In cases where there is a persistent tendency to contraction I intend to try nerve-stretching, and also where there are marked fulgurant pains in the region of one nerve. I am induced to try this on account of the remarkable influence which stretching of the nerve exercises over symptoms throughout the area of that nerve, and by the fact that irritation extending from a peripheral nerve in so many cases serves to excite the trouble. These facts would justify the experiment,—which is, however, only an experiment.

Manipulation, friction, and electricity, particularly in the form of faradization with a slowly-interrupted, moderate current, are to be recommended.

There are several mechanical devices by which ataxic patients may be enabled to go about. Crutches of peculiar construction, in which the leg is secured to the crutch with bands, often enable the patients to take exercise when otherwise they could not.

ORIGINAL COMMUNICATIONS.

REVIEW OF MEDICAL AND SURGICAL ELECTRICITY.

BY WILLIAM R. D. BLACKWOOD, M.D.,
Neurologist, Presbyterian Hospital.

PRODUCTION OF OZONE BY STATIC MACHINES.

DR. ANDREW H. SMITH, of New York, has devised an ingenious method of utilizing static electricity for the production of ozone as a therapeutic agent, more particularly for inhalation. He constructed a glass cylinder ten inches long by five wide, and introduced a brass rod into each end through a suitable aperture. The rod fitted loosely, so as to permit air to enter, and the inside ends were armed with spherical balls, as found on the ordinary dischargers of the static machine. On one side of the cylinder a short tube was fixed, and the cavity was then loosely packed with fine absorbent cotton. Upon the passage of a strong current from the machine, a volume of ozone is liberated, which is then inhaled directly from the tube or conveyed to any point desired by flexible tubing. Caution is necessary, as ozone is at times very irritating to inflamed or congested mucous membrane both of the throat and eye, as we know from personal experience. Under favorable conditions, this method of generating ozone is preferable to the use of phosphorus for that purpose, and it is free from the danger which attaches to that substance unless confined to the manipulations of the physician.

Mr. Alfred C. Walker, of Chester, England, has recently utilized static electricity in settling dust and fumes developed in the production of lead and zinc salts, which are extremely poisonous to the workmen employed. Connections are made from points whence such fumes arise to a main ventilating, horizontal shaft, preferably of considerable length, through which a current of air is kept flowing. Midway in its length a strong discharge

of static electricity is directed across the duct from a number of blunt rods, and precipitation of all minute solid particles ensues, the deposition being greater near the electrodes, but continuing for some distance beyond, toward the outlet of the shaft. A Wimshurst machine with plates of five feet in diameter was used. The principle is not new; it has long been used as a pleasing experiment with the Leyden jar; but as a hygienic measure in chemical laboratories it is an advance, and the application of something in this direction in the ventilation of pest-wards in hospitals, particularly in quarantine stations, may be desirable.

Vigoroux, as we have before reported, lays stress upon the value of ozone in the atmosphere of cholera-wards produced by static machines; and, whether his ideas are correct or not, it is certainly true, as we have demonstrated by experiment (reported elsewhere*), that microgerms can be sterilized or destroyed by electricity: hence the application of this method to the exhaust ventilating ducts of smallpox or yellow-fever wards is well worth experimenting upon, particularly because it involves little expense.

AN IMPROVED STATIC-ELECTRIC MACHINE.

Messrs. Waite & Bartlett have constructed, at the suggestion of Dr. Ambrose L. Ranney, of New York, a very handsome piece of mechanism, which is an obvious advance on hitherto-existing apparatus. We give the principal features, as stated by Dr. Ranney:

1. The case is so constructed that all of its joints are packed with soft rubber before its screws are tightened. This prevents the entrance of moisture from without, and makes the machine a useful one at all seasons of the year.

Soft rubber now constitutes the best packing for steam-apparatus, and is also used in hermetically sealing fruit-jars in preference to any other known material. All imperfections in the joints of the case are perfectly sealed in this instrument.

The *doors of the case* are so arranged as to be drawn tightly in contact with a frame covered with soft rubber by means of milled screws.

The glass in the case is put into the frames with putty, which is impervious to air.

The poles of the machine perforate the wooden portion of the case instead of the glass windows. They are insulated with hard rubber, and the apertures are protected by soft-rubber packing placed between hard-rubber buttons and the wood. Thus the danger of breakage of the case by accident is decreased without impairing its impermeability to dampness or allowing of leakage of the electricity generated when the machine is in use, while the strength of the case is materially increased by this modification.

2. The axle is so built as to reduce the friction to a minimum and to allow of its being oiled without opening the case.

3. The driving-wheel is very large, and rests upon a cast-iron support. This insures both ease of motion and durability.

4. The glass plates of the machine are nine in number. Six of these revolve and three are stationary. The stationary plates are of peculiar shape. The revolving wheels are made of carefully-selected glass, so as to be as true as possible and bear evenly upon the rubbers as they revolve.

5. The excitants consist of cat-skin rubbers between the inner plates and metal buttons upon the outer plates, which touch as they revolve upon fixed metal brushes.

6. The collectors have tinsel attachments which aid in gathering the electricity generated.

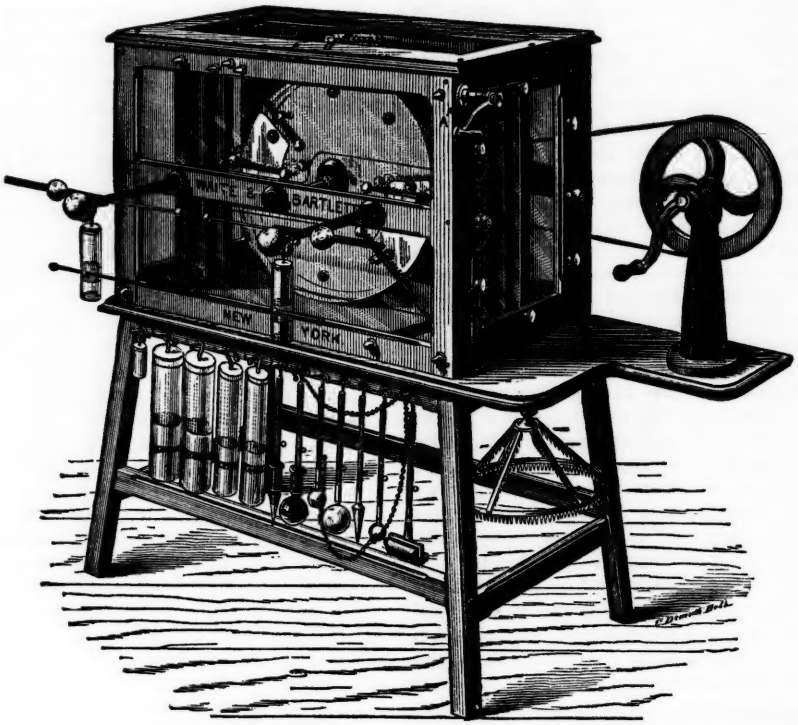
7. The electrodes are made with handles composed of hard rubber instead of glass. They are therefore less liable to be broken, and are as perfectly insulated.

8. Each machine is provided with three pairs of Leyden jars of different sizes. It is arranged also with hooks upon which the electrodes may be hung when not in use.

Sparks eleven inches in length have been obtained during a warm, muggy day in August, which speaks well for efficiency in the new machine.

Mr. D. Rosseau, of 310 Mott Avenue, New York, writes, "I notice in the *New York Medical Record* of the 17th instant the description, by Ambrose L. Ranney, M.D., of a so-called new apparatus for generating static electricity. I am very much surprised at the similarity to the Induction Holtz Machine, manufactured by me for nearly two years. With the exception of the rubber, the principle of the machine was discovered by Holtz, but the new construction, as described by Dr. Ranney,

* Medical Bulletin, December, 1883.



was devised by me, with the help of Charles Van Brunt and H. D. Hall. The first one I sold for medical use was to Dr. M. A. Pallen, in September, 1884; and one to A. C. Hutchinson, President of Morgan's Louisiana and Texas Railroad, also in the fall of 1884; and one to Dr. T. Hamilton Burck, December 18, 1884."

THERMO-ELECTRIC PROSTATOTOMY.

Prof. Bottini, of Pavia, was consulted by a man, æt. 68 years, who was suffering from enlarged prostate. The catheter had to be employed, because of the large amount of muco-pus held in the urine. Irrigations of sulpho-carbolate of zinc and boracic acid toned up the bladder and cleared the urine somewhat. A thermo-electric cautery, consisting of a double-channelled catheter (the inner tube of which holds the conducting wires and the outer permitting a stream of cold water to control the heat in the urethral portion), was used. The platinum plate at the extremity of the loop was applied to the hypertrophied gland for forty-five seconds, and a catheter was then retained in the bladder. Suppositories of belladonna controlled the vesical tenesmus. Sloughs came away in twenty-four days, and micturition was then possible without the catheter. The local use of faradic currents was of benefit, during the course of the case, in toning the parts, and nux vomica was given internally. The procedure is said by Dr. Bottini to be free from much pain, but in sensitive persons chloroform may be used. It is, however, evident that care is demanded, not only against cystitis, but to avoid injury to the vesico-rectal wall, instances of fistula having been produced to our knowledge in operations on the bladder in the hands of competent electro-therapeutists. So long as other reliable methods of treating senile enlargement of the gland exist, it would be well carefully to select such cases as are subjected to electro-cautery.

ELECTRICITY IN GYNÆCOLOGY AND OBSTETRICS.

Hofmeier, of the Royal Berlin University, dwells at length on the value of electro-therapeutics in uterine affections, both

as to the gravid and puerperal states. He is supported by Brumm, of Scanzoni's clinic (who uses faradism), and Baier, of Freund's clinic in Strassburg (who depends upon galvanism). The indifferent results obtained by each of these observers when both electrodes were placed externally are believed by them to be dependent upon the differential value of the two currents; but, if the method used by the reviewer, of *direct intra-uterine* or conjoined applications, had been practised, it would have demonstrated the fact that both currents are equally valuable, although not indifferently applicable to every case. For example, faradism is useful in producing uterine contraction, whatever its condition; but galvanism will act more decidedly in reducing the organ to its normal size if hypertrophied, as in subinvolution. Great dependence is placed upon electricity by each author in dysmenorrhœa and other painful affections of the non-gravid organ.

Vulliet, in the Geneva *Archiv für Gynaecologie*, Band xxii. Heft 3, relates the case of a woman who, having suffered from previous pelvic inflammation, evidenced symptoms of pregnancy, with discharge of decidual membrane. A tumor formed behind the uterus, pushing it forward, and this was incised per vaginam, with no good result. Laparotomy was then done, but the patient died in seventy-two hours from septic peritonitis. Death was undoubtedly due to ill-managed surgical interference. The case was one of extra-uterine pregnancy, and it is referred to as being a typical one for the use of electricity in arresting the development of the ovum,—being almost precisely similar to one under the writer's charge last spring, which terminated favorably, in which faradism produced arrest, and galvanism, later, the absorption of the foreign body. So far we have carefully studied the use of electricity in fifteen cases of extra-uterine pregnancy, four of which were under our own notice, and there is certainly nothing in medicine more fully established than the value and harmlessness of electricity in just such cases as the one above quoted.

INDUCTION OF PREMATURE LABOR BY ELECTRICITY.

Dr. Syromatnikor, in *Vratch*, mentions three methods for inducing labor,—one in which both rheophores are placed externally, one in which an external and an internal pole are used, and the third in which both are used per vaginam. He relates a late case of contracted pelvis, requiring perforation of the head in a previous delivery, and here he employed faradism at the thirty-seventh (?) week through a Sparner's coil (primary). Although pains were produced in an hour, he seems to have required an entire week before completing the work, which implies imperfection, because labor can be readily completed in from twelve to twenty-four hours. The writer mentioned two other cases by Gruenewalt, and one by Typaykoff, all of which were successful.

ELECTRICITY IN INTESTINAL OBSTRUCTION.

Dr. I. J. Hudson relates in the *Medical Times and Gazette* a series of cases occurring in operatives in lead-works and in potteries using lead in glazing their wares. Some of the cases are classed as intussusceptions, but it is probable that all were dependent upon lead-paralysis of the intestinal muscular coat. Dr. Hudson now relies upon galvanism altogether in the treatment of his patients, and the duration of their illness was notably lessened in comparison with the time occupied under other plans of cure. In the potteries the poison is absorbed by the skin, but in the lead-works the process alluded to under the head of "static electricity" would probably have saved much, if not all, of this suffering.

GALVANISM IN ASIATIC CHOLERA.

Professor Peter, in a speech at the Paris Academy of Medicine a few days ago, referred to the theory that cholera was a nervous disease, and quoted the opinion of Chapman, of London, to that effect (as taught by M. Jules Guérin fifty years ago). By quieting the spasm of the blood-vessels and reducing spinal congestion, the animal heat is revived and the muscular cramp arrested. By its influence the current modifies the innervation of the great splanchnic nerves, as does the ice-bag: hence the epigastric symptoms are relieved and the prominent vomiting is controlled, as happens under galvanism in non-choleraic cases. It is probable that galvanism may supplant the ice-bag in the hands of experts, but further trial is of course necessary to establish its actual value.

ELECTRICITY IN DILATATION OF THE STOMACH.

In the *Rivista Clinica e Terapeutica*, Dr. Predazzi reports two cases of atonic dilatation of the stomach successfully treated by faradism applied for *two minutes* daily, improvement being noted in ten or twelve days. In a paper on "The Treatment of Abdominal Disorders by Electricity,"* published some time ago, the results in thirty cases were noted, and we cannot at all endorse the method here quoted. From ten to twenty minutes daily under galvanism were requisite for at least six months in our practice, and faradic currents were ill borne in every instance, the abdominal muscular contractions being too painful, yet inseparable from faradism.

ELECTRICITY IN SKIN-DISEASE.

Dr. Hardaway has remarked the wide usefulness of electrolysis in cosmetic manipulations. In hirsuties, in warts and moles, in milia, in many small fibromata, and in cutaneous horns he finds galvanism of value. He reports decided success in pigmentary defects such as very dark freckles, his method being to prick the surface at many points with a fine needle, care being taken not to go down through the corium, so as to avoid scarring. In the disfiguring port-wine marks one plan is to place over the surface a thin plate of zinc perforated with numerous holes, through which the needle is inserted, and the perforations are thus prevented from overlapping each other. Reference may be made for fuller account to the *Journal of Cutaneous and Venereal Diseases*, No. 4, vol. iii.

GALVANISM IN DIPHTHERITIC PARALYSIS.

This form of paralysis undoubtedly tends to recover spontaneously; but, in order to contrast the value of tonics, massage, and electricity, Dr. James K. Thatcher, of Yale College, submitted a severe case to experiment, in which paralysis of both arms and legs was present. Under tonic treatment, the progress towards recovery was noted in the general condition, but the arms were reserved for experiment. The strength measured by a grip dynamometer was, on beginning, right 31, left 29. Five periods of seven to ten days each were compared with each other, and the gains with faradism and massage were:

	Arm treated.	Arm untreated.
Massage	8.3	11.4
Faradism	4.3	4.1

Here massage appears to have done more harm than good, and faradism was of little use; yet one case will not do to base definite conclusions on. Less difficulty is met in the results from galvanism, which were as annexed:

	Galvanized Arm.	Untreated Arm.
1. Ten days to left arm .	17	12
2. Seven days to right arm	15	10
3. Seven days to left arm .	7.4	0.9

The galvanized arm made progress in the rate of 1.72 to 1 in the other,—nearly twice as much. The dynamometer strength now was—right 74.6, left 75.8. In our own practice we rely on central and general galvanization, without tonics or massage, and the progress is fully as rapid as that of Dr. Thatcher, with less trouble to the patient.

SEVERE ELECTRIC SHOCK.

Dr. Liman called attention to the results of lightning-stroke at a recent meeting of the Berlin Verein für Innere Medicin. Various ecchymoses and excoriations, supposed to be photographs of trees, clouds, etc., are shown to be due to protection of the surface by heavy or light layers of clothing offering resistance, and death is generally attributable to asphyxia. Rupture of internal organs is common. Prof. Leyden confirmed the opinions of Dr. Liman.

Dr. W. G. Eccleston refers to the fact that text-books say little or nothing about the treatment of shock from lightning or contact with dynamo-electric machines. He notes in the *Medical Record* three cases with extreme cardiac and respiratory depression, and he has found the hypodermic use of atropia in doses of $\frac{1}{100}$ to $\frac{1}{80}$ of a grain the best way to combat the symptoms. In these days, when one is liable at any moment to fall in with cases of severe shock from electric-lighting plants, the results of Dr. Eccleston's labor are of much value.

ELECTRODE COVERINGS.

Dr. Massey proposes the use of absorbent cotton as a substitute for the sponge

*Medical Bulletin, October, November, and December, 1884.

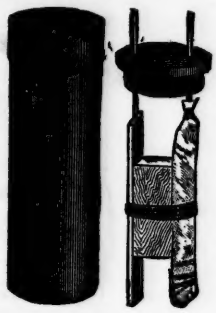
covers ordinarily employed for rheophore disks or points. The cotton is easily applied; it holds enough moisture to conduct properly; it is clean, and cannot convey any disease from one patient to another, which is a point not usually thought of by general practitioners. We have always used fresh covers of muslin for each case, held on by small rubber bands, all of which can be relegated to the waste-basket when done with. But the idea of Dr. Massey is at once simple and efficient after the knack of twisting the cotton on is acquired, at least in the smaller rheophores. In large disks, sponges will, we think, still be the better; and they must, of course, be thoroughly cleansed by boiling water and carbolic or sublimate soap after each application.

IMPROVED ELECTRICAL APPARATUS.

The ordinary portable batteries have heretofore been inconvenient and unreliable, particularly those using carbon plates and electropoion fluid, from the tendency of the carbons to break easily and of the acid to fail unless frequently replenished. In addition to this, the plates in such instruments must be lifted out of the solution when not in use: hence it is difficult to keep the cells acid-tight by the best form of hydrostat, single fluid elements are generally too weak, and gravity-cells do not suit for any except permanent apparatus. A new instrument is now made with elements of zinc and silver chloride immersed in zinc-sulphate solution.

The cells which hold the fluid and enclose the elements are of hard rubber, three inches long and one inch in diameter. A plate of hard rubber has upon its upper surface rows of protecting studs corresponding to the number of cells of the battery. To the under side of this plate are permanently attached plugs or stoppers of hard rubber, which form the caps of the battery-cells. These plugs and the mouths of the bottles are provided with corresponding threads, so that each bottle may be readily screwed to its cap or removed from it without interfering with the others.

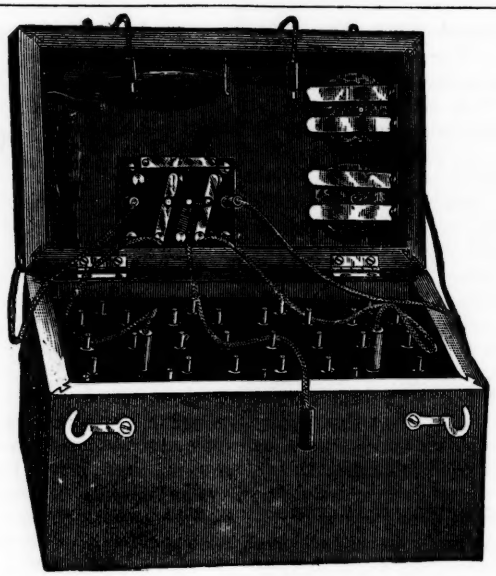
The connections are entirely free from corrosion. The silver wires, which are attached directly to the zinc and silver plates in the cells, are passed up through the caps and plate, and fastened down under nuts which screw upon the connecting studs. There are no connections underneath the plates. The nuts and ends



of the silver wires are on the top of the plate, easy of access, and entirely removed from moisture or the fluid of the cells.

The metallic elements of the battery are connected in order to the studs which form the terminals of the successive cells by silver wires, which pass up through perforations in the caps and plate, and are screwed down in pairs under nuts turning upon the studs. A perforated top plate of polished rubber, through which the tips of the studs project, is laid over the whole. On this plate are stamped the number of the studs in the order in which the connections of the battery are made. The current-reverser is located in the cover of the box. The wrapping around the chloride-bar retains the metallic silver formed by breaking up the salt when the circuit is closed, and this can be sold or exchanged for new plates: hence there is no waste. The zincs, it is stated, last indefinitely. The whole is compact, and, with the addition of a rheostat in the cover of the box, will be an excellent apparatus. The force is about that of the Daniell,—one and a tenth volt per cell. The internal resistance is said to be only about four ohms in thirty cells, which is very little, if true. The connections are simple; but we prefer screw binding-posts to split clamps, which are apt to lose their spring power. The cuts show the internal construction and general aspect of the battery complete.

Mr. Barrett, of New York, the maker of the battery described, has also got up a milliampèremeter for absolute measurement of constant units of electro-motive force. We have repeatedly urged this point upon our readers, for the hap-hazard method of dosage with electricity is at the bottom of



nearly all failures in using it. The usual galvanoscope simply shows the battery to be working, and tangent or sine galvanometers are cumbersome and costly,—too much so for the medical electrician. The new instrument is quite accurate: it is sensitive, yet steady, and gives units always the same for an equal force of current. As the correct way is always to employ so many volts or milliampères, instead of such a number of cells, which may or may not be uniform in strength day after day, the utility of the meter is apparent.

The instrument is the outgrowth of the effort of Dr. De Watteville, of London, to establish a unit of measurement by electricians at the Congress of 1878. The meter may be used simply as a test of current-strength before applying electricity to a patient; but the better plan is to intercalate it in the circuit during the sitting, together with a rheostat. Its internal resistance is about fifty ohms, which must be compensated for by added cells, which bring the needle to the index desired during the treatment.

STATISTICS RELATING TO SEVEN HUNDRED BIRTHS (WHITE) OCCURRING IN THE PHILADELPHIA HOSPITAL (BLOCKLEY) BETWEEN 1865 AND 1872.

BY JOHN STOCKTON-HOUGH, M.D.

THESE tables were constructed some years ago, with a view of obtaining certain facts which have from time to time been incorporated in other papers published by the author, and are now offered to the profession in their entirety for the first time.

These are the only tables I know of in which the length of the trunk of the fœtus is compared with the entire length, and from an examination of which I discovered that female children have the trunk longer in proportion to their entire length than do males,—as may be seen from an examination of the table devoted to this fact. The weight of the placenta is not given; but I have shown in another paper*

* "Influence of the Sex of the Fœtus on the Condition of the Mother during Gestation, Lactation, etc." *Amer. Jour. of Obstet.*, February, March, May, June, 1884. Reprinted, 8vo, pp. 70, New York, 1884.

that observations founded on sixteen thousand cases show the placenta to be heavier in proportion to the fœtal mass in the case of females than with males,—an explanation of which may be found in the paper referred to. The duration of gestation is shown to be longer by three days with males than with females. The duration of labor was from two to four hours greater with males than with females.

Number of Cases observed.	Average Age of Mother.	Single or Married.	Number of Pregnancy.	Duration of Gestation.	Duration of Labor (all the stages).	Sex of Child.	Length of Child.		Weight of Child (Avoirdupois).	
							Entire.	Trunk.		
				Months.	Hrs. Min.		Inches.	Inches.	Lb.	Oz.
50	20.28	Single.	First.	8.66	17 8	Female.	18.40	12.15	6	5.7
39	20.92	Single.	First.	8 95	15 41	Female.	19.15	12.30	6	13.0
40	21.02	Single.	First.	8.99	18 37	Female.	19.33	12.94	7	3.3
39	21.46	Single.	First.	8.88	19 19	Female.	18.92	12.33	6	15.0
168	20.92	Single.	First.	8.87	17 41	Female.	18.95	12.43	6	13.25
34	20.20	Single.	First.	8.90	18 58	Male.	19.20	12.49	7	2.5
34	21.40	Single.	First.	9.00	20 26	Male.	19.30	12.50	7	9.0
25	22.20	Single.	First.	8.93	21 30	Male.	19.10	12.30	7	7.0
33	22.40	Single.	First.	8.85	18 35	Male.	19.50	13.00	7	15.0
27	23.30	Single.	First.	8.88	22 17	Male.	20.00	12.60	7	3.0
153	21.90	Single.	First.	8 95	20 21	Male.	19.42	12.59	7	7.3
48	22.88	Married.	First.	8.81	16 26	Female.	18.56	12.27	6	7.3
54	23.35	Married.	First.	8.92	20 36	Male.	19.15	12.50	6	14.8
51	26.26	Single.	Second.	8.85	16 16	Female.	19.30	12.54	7	9.0
17	23.70	Single.	Second.	9.03	11 3	Male.	19.60	12.70	7	12.0
44	26.06	Married.	Second.	8.97	11 18	Female.	19.26	12.66	7	7.0
44	23.38	Married.	Second.	8.98	13 30	Male.	19.66	12.95	7	12.05
3	27.30	Single.	Third.	9.00	10 50	Female.	18.70	12.73	7	2.7
7	25.14	Single.	Third.	8.99	14 30	Male.	19.28	12.42	7	2.2
21	28.70	Married.	Third.	9.00	13 23	Female.	19.45	12.80	7	14.6
15	29.30	Married.	Third.	9.00	14 12	Male.	20.30	13.50	8	6.0
4	32.00	Single.	Fourth.	9.00	12 11	Female.	18.50	12.50	7	9.5
1	33.00	Single.	Fourth.	9.00	5 00	Male.	20.00	14.00	8	2.0
14	30.00	Married.	Fourth.	8.61	11 29	Female.	19.46	12.76	7	3.0
10	31.00	Married.	Fourth.	9.00	10 51	Male.	19.50	13.00	8	0.8
1	26.00	Single.	Fifth.	9.00	18 00	Female.	20.00	14.00	8	8.0
10	32.70	Married.	Fifth.	9.00	11 04	Female.	19.40	13.30	7	13.0
11	30.27	Married.	Fifth.	9.00	10 23	Male.	19 30	12.81	7	15.0
1	38.00	Single.	Sixth.	8.00	8 15	Female.	15.00	10.00	3	9.0
7	32.28	Married.	Sixth.	9.06	13 15	Female.	19.28	12.85	7	11.0
8	30.25	Married.	Sixth.	9.00	10 12	Male.	19.12	12.75	7	8 0
6	34.16	Married.	Seventh.	9.13	16 10	Female.	19.00	12.00	6	15.6
6	34.30	Married.	Seventh.	9.00	11 15	Male.	19.16	13.00	7	5.0
1	33.00	Married.	Eighth.	9.00	5 30	Female.	20.00	14.00	9	6.0
2	32.50	Married.	Eighth.	9.00	5 42	Male.	19.50	12.50	8	10.0
1	33.00	Married.	Ninth.	9.00	30	Female.	19.00	14.00	7	1.0
1	37.00	Married.	Ninth.	9.00	3 30	Male.	19.00	13.00	7	7.0
2	37.00	Married.	Tenth.	9.00	19 20	Female.	19.00	12.00	7	11.0
1	33.00	Married.	Tenth.	9.00	17 10	Male.	18.00	12.00	6	4.0

RECAPITULATION.

				Months.	Hrs. Min.		Inches.	Inches.	Lb.	Oz.
168	20.92	Single.	First.	8.87	17 41	Female.	18.95	12.43	6	13.25
153	21.90	Single.	First.	8.95	20 21	Male.	19.42	12.59	7	7.30
48	22.88	Married.	First.	8.81	16 26	Female.	18.56	12.27	6	7.30
54	23.35	Married.	First.	8.92	20 36	Male.	19.15	12.50	6	14.80
51	26.26	Single.	Second.	8.85	16 16	Female.	19.30	12.54	7	9.00
17	23.70	Single.	Second.	9.03	11 03	Male.	19.60	12.70	7	12.00
44	26.06	Married.	Second.	8.97	11 18	Female.	19.26	12.66	7	7.00
44	23.38	Married.	Second.	8.98	13 30	Male.	19.26	12.95	7	12.5
579										

311 cases with girls, av. duration of gestation, 8.87 months.
268 " " boys, " " " 8.97 "

Longer duration with boys, by .10 "
Or, 3 days.

The male children were, on an average, 6½ ounces heavier than the female.

Table showing the Effect of Age and Number of Pregnancy of the Woman on the Length and Weight of her Offspring, Legitimate and Illegitimate combined.

Number of Pregnancy.	Average Age of Woman.	Length in Inches.						Weight (Avoirdupois).	
		Males.			Females.				
		Number of Cases.	Entire.	Body.	Number of Cases.	Entire.	Trunk.	Males.	Females.
								Lb. Oz.	Lb. Oz.
First.	21.35	.....	.....	.....	216	18.82	12.39	.....	6 10.46
First.	22.27	207	19.35	12.56	.....	.....	.....	7 5.82	.....
Second.	26.16	.....	.....	.....	95	19.28	12.60	.....	7 8.07
Second.	23.48	61	19.64	12.87	...	.....	.....	7 12.00	.....
Third.	28.52	...	.....	.....	24	19.35	12.79	.....	7 13.11
Third.	27.97	22	19.97	13.15	...	.....	.....	8 6.00	.....
Fourth.	30.44	...	.....	.....	18	19 24	12.70	.....	7 4.44
Fourth.	31.18	11	19.59	13.09	...	.....	.....	8 0.91	.....

Table showing the Numerical Relation between the Entire Length and the Length of Trunk (Level of Vertex to Level of Perineum) of the New-Born Child; also illustrating the Fact of Greater Proportional Length of Trunk of Female Children over Male, as first brought out by the Author.

Average Age of Mother.	Number of Cases observed.	Mother Single or Married.	Number of Pregnancy.	Sex of Child.	Actual Length in Inches.		Proportion.	Weight.
					Entire.	Trunk.		Lb. Oz.
20.92	168	Single.	First.	Female.	18.95	12.43	100 : 65.59	6 13
21.90	153	Single.	First.	Male.	19.42	12.59	100 : 64.83	7 7
					.47	.16	+.76	—10
22.88	48	Married.	First.	Female.	18.56	12.27	100 : 66.11	6 7
23.35	54	Married.	First.	Male.	19.15	12.50	100 : 65.27	6 14
					.59	.23	+.84	—7
26.26	51	Single.	Second.	Female.	19.30	12.54	100 : 65.07	7 9
23.70	17	Single.	Second.	Male.	19.60	12.66	100 : 64.59	7 12
					.30	.12	+.48	—3
26.06	44	Married.	Second.	Female.	19.26	12.66	100 : 65.79	7 7
23.38	44	Married.	Second.	Male.	19.66	12.95	100 : 65.87	7 12
	579				.40	.29	—.08	—5

An examination of the following table shows that the duration of labor (all stages combined) is greater with male children than with female.

Table showing the Duration of Labor (all Stages combined).

PRIMIPARÆ.

Males.	Hours.	Weight. Pounds.	Ounces.	
153	20.21′	7	7.3	Single women.
54	20.36′	6	14.8	Married "
Females.	Hours.	Weight. Pounds.	Ounces.	
168	17.41′	6	13.2	Single women.
48	16.26′	6	7.3	Married "

MULTIPARÆ, SECOND LABOR.

Males.	Hours.	Weight. Pounds.	Ounces.	
17	11.03′	7	12	Single women.
44	13.30′	7	12.5	Married "
Females.	Hours.	Weight. Pounds.	Ounces.	
51	16.16′	7	9	Single women.
44	11.18′	7	7	Married "

The proportion of sexes was as follows:

Illegitimate: 170 boys to 211 girls, or 80.5 boys to 100 girls.
Legitimate: 98 boys to 92 girls, or 106.5 boys to 100 girls.

EPILEPSY DEVELOPED DURING TYPHOID FEVER.

BY CHARLES BAUM, M.D.

MARY F., æt. 14 years and 6 months, an inmate of the Soldiers' Orphans' Institute of this city, was visited for the first time January 9, 1885. She was of medium height, slender figure, and nervous temperament. Menstruation had begun five months previously, and had been properly performed. After several days of increasing languor she went to bed, where she now had been four days, with weakness of limbs, headache, drowsiness, slight fever, loss of appetite, yellow-furred tremulous tongue, repeated epistaxis, pulse 112 per minute and weak, and diarrhœa for two days, the stools having the usual ochre color. The day following, numerous rose-colored spots, disappearing upon and returning after pressure, appeared on the skin over the abdomen and the thorax. There was moderate tympany and evenly-diffused pain in the abdomen on pressure. Three days later active delirium occurred. During convalescence constipation was present, but was easily relieved.

From the onset of the attack the treatment consisted in liquid diet and the administration of dilute muriatic acid. During the second week oil of turpentine aided in cleansing the dry, brown tongue, decreasing the diarrhœa, and relieving the delirium.

Nothing of unusual note marked the progress of the fever until February 6 (four weeks from the date of the first visit). Just when she had fairly entered the stage of convalescence, and before any change of diet had been made, sudden emesis occurred, and four hours later a fully-marked epileptic fit. Spasm after spasm followed with such rapidity that at no time for the space of three hours did the muscular system become quiet. At this juncture I saw her and immediately administered ether by inhalation, which speedily arrested the convulsions. Each paroxysm was marked by double internal strabismus, widely-dilated pupils, grinding of the teeth, frothy blood-tinged saliva, fingers firmly clinched over the thumbs, and tonic, followed by clonic, muscular contractions. After the inhalation of two fluidounces of ether she fell into a heavy sleep of eight hours' duration, from which she awoke in a state of confusion. The urine was examined and found negative as regards albumen, but it contained a large excess of phosphates.

Upon the date of the fit menstruation should have occurred, but was not resumed until her usual health was regained. One week later a second convulsion occurred, being announced by a sharp cry. The entire paroxysm lasted about five minutes, and was followed by a deep sleep. Bromide of potassium with fluid extract of valerian was ordered for the epilepsy. During the following three weeks numerous (about twelve) superficial abscesses were incised.

Careful inquiry into the history of the patient did not reveal any suspicion of previous night- or day-epilepsy. Her father is said to be a peculiar man, and on two occasions, without any known reason, has abandoned his family and was not able to give a clear account of his wanderings. Her mother was delicate, and died of typhoid fever.

On two occasions, during the seven months since the first convulsion, while excited, she has had a pronounced seizure, —the so-called *petit mal.* She has been carefully watched, but as yet no attack seems to have occurred during the night.

630 NORTH BROAD STREET, PHILADELPHIA, PA.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

SERVICE OF ARTHUR V. MEIGS, M.D.,

One of the Attending Physicians to the Hospital.

Reported by CHARLES BAUM, M.D.

VALVULAR DISEASE OF THE HEART, WITH PULMONARY APOPLEXY AND TYPHOID FEVER.

GENTLEMEN,—Before showing the interesting pathological specimens before me, I will read the history of the case:

Charles S., æt. 24, single, German, a baker, has been in this country two and a half years. His mother and sister died of phthisis. When 15 years old he had two attacks of articular rheumatism, and he has suffered from dyspnœa and palpitation of the heart for five or six years. One year ago he was admitted into this ward, suffering with acute inflammatory rheumatism and accompanying pericarditis. Endocardial inflammation was also present, there being a positive systolic murmur at the

apex, as well as a double murmur at the aortic cartilage, indicating mitral regurgitation with aortic obstruction and regurgitation. After leaving the ward he resumed baking, and in the winter spent three months grappling for oysters: since then he worked daily at his trade until two days prior to his admission to the hospital, on September 7. For the past three months he has had cough, muco-purulent expectoration, and night-sweats. Gradually he found himself becoming more weak, and for two weeks he coughed up bright blood, which has recurred daily since. He had been in bed only two days. Upon admission a thorough physical examination was not permissible, owing to his condition. The condition of the pulse known as Corrigan's or water-hammer was very marked; and, although the heart was acting tumultuously and irregularly, a loud systolic murmur was audible at the inferior angle of the left scapula. A few days later physical examination revealed pulmonary emphysema and apoplexy, and also general hypertrophy of the heart, especially of the left ventricle, as well as mitral regurgitation and double aortic disease. Five days after his admission ochre-colored diarrhœa began, followed by epistaxis, stupor, dull hearing, dry brown tongue; and several days later rose-colored spots upon the abdomen, which was very tympanitic from the onset of the diarrhœa. At this time all traces of blood disappeared from his sputa. Death occurred twenty-six days after his admission.

Autopsy twelve hours later. On opening the thorax, the pericardium was found somewhat thickened and universally adherent to the heart. The right lung was bound down by old pleuritic adhesions at its base. It does not collapse, but crepitates throughout its anterior and upper portions, but at the posterior and inferior aspect it is carnified. Greatly-emphysematous patches occupy the anterior and inferior surface of the left lung, which crepitates throughout, except at the posterior inferior aspect, where there is a large dark area of carnification; its anterior border is enlarged and did not collapse, so that it must have projected across the median line. The left ventricle of the heart is very much enlarged, both the cavity and the walls. The same condition is present in the right ventricle, but less in degree. The pulmonary and tricuspid valves are natural; the aortic valves markedly thickened, stiff, and with rounded edges; the mitral flaps are enlarged, stiffened, thick, and opaque, and the opening is enlarged perhaps one-fourth. The heart-muscles look pale and seem hard. In the small intestine, for about five feet above the ileo-cæcal valve, Peyer's patches are enlarged, and ulceration has occurred in many of them. The liver weighed four pounds, and at the anterior margin, covering the gall-bladder, there was an abscess about the size of a walnut. A calculus was found in the cavity of the abscess, having provoked suppuration after ulcerating through the gall-bladder, which was much thickened and adherent to the under surface of the liver. Within the gall-bladder a large, fragile calculus, one and one-half inches long by one-half inch in diameter, was discovered. During life there were no symptoms pointing to this condition. True, elevated temperature was observed, but this was accounted for by the condition of the lungs and the typhoid fever.

This case fully illustrates the difficulties in diagnosis where several morbid processes are present. Prior to death, emphysema, pulmonary apoplexy, valvular disease of the heart with hypertrophy of its walls, and typhoid fever were diagnosticated; while there were no symptoms pointing to adherent pericardium, abscess of the liver, or gall-stones.

TRANSLATIONS.

SYRUPS OF HIPPURATES OF CALCIUM AND OF LITHIA.—Dr. V. Poulet recommends the following formulæ:

1. *Syrup of Hippurate of Calcium.*—
   Pure hippuric acid, 100 grammes;
   Milk of lime, sufficient to produce an alkaline reaction;
   Hot water, 2 litres;
   Sugar, 2400 grammes;
   Spirit of lemon, 15 grammes.

Add to the acid a portion of the water (at 80° C.), and then gradually the lime (agitating the mixture), until it no longer reddens litmus paper, which requires about fifteen minutes to complete the reaction; then add the sugar and expose to gentle heat, and make a syrup, which is subse-

quently flavored with lemon. For diabetic patients the sugar can be omitted.

2. *Syrup of Hippurate of Lithia.*—

Lithium carbonate,	8 gr.
Hippuric acid,	35 "
Warm water,	1000 "
Sugar	1200 "

Add a little water to the acid, and then the lithium carbonate, so as to obtain a solution of alkaline reaction; then add the rest of the water and the sugar, and place upon a gentle fire. Each teaspoonful of syrup contains twenty-five centigrammes of the salt, in which there are but three centigrammes of the base.—*Bulletin Gén. de Thérapeutique*, August 30 and September 30.

Dr. Poulet has used the lime hippurate in diseases of the bladder with alkaline urine, in liver-affections with or without jaundice, and in diseases of hot countries, which are often attended by hepatic disorder. In skin-diseases, where produced by an attendant diathesis, whether gouty, scrofulous, or tuberculous, a useful field is presented for this agent. Affections of the mucous membranes are also cited as being favorably influenced. Cases of dyspepsia, diabetes, and chronic rheumatism are especially benefited by this treatment. The lithia salt is reserved for cases having the uric acid diathesis. A case of rheumatoid arthritis with deformity of the right hand was almost entirely cured by the use of the syrup of hippurate of lithia. The lime salt the author believes to be one of the best and most efficient agents of the materia medica.

Lymphoderma Perniciosa, a New Form of Skin-Disease.—A woman, 39 years of age, came under the observation of M. Kaposi (*Wien. Med. Jahr.*, 1885), having suffered for a year with an eruption which was diffuse upon the face, head, and neck, and irregularly localized in groups or patches on the hips and extremities. It was associated with a doughy swelling and thickening of the affected skin. In the several parts of the body named there had been developed, both in the corium and in the subcutaneous cellular tissue, numerous small growths from the size of a pea to that of a pigeon's egg; some of the tumors were dense, some apparently fluctuating, not distinctly circumscribed; and when opened, spontaneously or by incision, a custard-like, purulent material was discharged. The urine contained neither albumen nor sugar, but there was an enlarged spleen and a well-defined leukæmia. The serous imbibition and thickness of the skin attained, while under observation and after a transitory improvement, a still higher development; the tumors increased in size and number, so that the woman's features were finally rendered unrecognizable: she died very suddenly after five months' residence in the hospital.

In the post-mortem examination, in the locality corresponding with the tumors the adipose layer in the œdematous cellular tissue was changed into dense whitish-red masses, the overlying skin forming a bacon-like layer, which was not entirely distinct from the growth. The microscope showed the tumor, as a whole, to be partly supplied with vessels, with a delicate thread-like stroma, with its interstices crowded with lymphoid cells and nuclei. Similar new formations were discovered in the lung, the spleen, and the bone-marrow: the lymphatic glands had the usual characters of leukæmia. The connection between the dermatosis and the leukæmic process appears unquestionable.—*Centralblatt für Med. Wiss.*, No. 40.

Hydrofluoric Acid in Therapeutics.—Dr. E. Chevy (*Bull. de Thérap.*, p. 108), after investigating the properties of this acid and observing its effects clinically, arrives at the following conclusions:

1. The vapors of hydrofluoric acid, mixed with air, do not produce the respiratory accidents which we have hitherto been led to suppose. Without inconvenience, an adult can breathe a mixture of one to fifteen hundred parts of atmospheric air.

2. Hydrofluoric acid is a powerful antiseptic and antiferment. In the proportion of one to three thousand, it arrests the fermentation of milk, of urine, or of soup, and can be used for the preservation of meat.

3. The therapeutic employment of hydrofluoric acid in pulmonary tuberculosis, in diphtheria, and in the dressing of foul wounds, has furnished results which are worthy of being followed up.

4. In a case that is asthmatic, hæmophilic, or emphysematous, it should be employed with great prudence.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, OCTOBER 31, 1885.

EDITORIAL.

MAY CRIMINALS BE USED FOR PHYSIOLOGICAL EXPERIMENTATION?

FROM time to time the intimation is given that there is much good "material" wasted in the ordinary process of law, and that crucial physiological experiments might properly be made upon condemned criminals for the benefit of science; and the argument, when viewed solely from a medical stand-point, is a plausible one. The *Indian Medical Gazette* contains an editorial urging the practice on the score of humanity, and suggesting that out of the three or four hundred criminals who suffer the extreme penalty of the law annually in India some might be obtained upon whom experiments could be made,—for instance, to decide finally the question as to the contagion or non-contagion of cholera,—offering pardon to those who survive. The men are doomed, a chance of escape is offered, science will be advanced, and humanity will be benefited.

Unfortunately for the position of the advocates of experimentation *in corpore vile*, there are several objections to it which appear insuperable. In the first place, when a guilty wretch has been condemned to death, the sentence is based upon the deliberate conviction that no less punishment will satisfy the demands of justice and outraged law; and, after searching judicial investigation, no doubt remains that a milder sentence would be inadequate to the protection of society and unsuited to the grade of his offence. Here is a dilemma. A criminal's life is forfeited to outraged law. Science asks for his body for experimentation, but evidently it can be delivered only under a pledge that the sentence of the law shall be fulfilled and that the criminal shall not be permitted to survive. But in civilized communities the condemned is protected by public sentiment and legal enactment against cruel and unusual forms of punishment; consequently the kind of experimentation that is proposed could be carried on only with the consent of the victim. Such consent, however, might be obtained by holding out the hope of recovery and freedom. Is it possible, we ask ourselves, that any could be found so utterly heartless as to approach a poor, condemned wretch with promises of health and security, and with a refinement of cruelty make use of him for physiological experimentation, and when finished, while he is still buoyed up with hopes of life, give him his death-blow with the hypodermic needle? Even could such a monster be discovered, he certainly would be denounced and his work disowned by the medical profession at large, the mission of which, in the words of Baron Larrey, is to cure, and not to kill.

It may be urged that such a promise might be made in good faith, and that the man, by a desperate chance, might escape, and while it is true that the chances would be very much against him, still he need not necessarily be killed by the physiologist. True; but, if he survive, a new and very serious question arises: What will be his future status in society? The law having declared him to be such an enemy to the community that its only safety consists in destroying him like a wild beast, and that his life is justly forfeited, how is the law to be satisfied? Can moral regeneration be secured by inoculation with comma-bacilli? Will a bad man, as the result of vaccination, or artificially induced cholera, have his nature so changed that he will become a good citizen and fit to be trusted with the ballot? What becomes of the sanctity of the law and the stability of society if a man may commit murder and escape with

the infliction of a diarrhœa, or sickness more or less severe, at the pleasure of his physiological humanitarian friends?

Without discussing the question further, we will merely say that the suggestion is impracticable and discreditable to our age and modern civilization. There was a time when condemned criminals were handed over to the doctors to be experimented upon until finally despatched with a drachm of opium. That time has passed. The world indeed moves. Truth is still earnestly sought for, but only by justifiable and legitimate methods:

"Weh dem, der zu der Wahrheit geht durch Schuld!
Sie wird ihm nimmermehr erfreulich sein."

ABDOMINAL TAXIS FOR OBSTRUCTION OF THE BOWELS.

IN the first of a proposed series of lectures upon the treatment of cases of obstruction of the bowels, Mr. Jonathan Hutchinson (*Medical Press and Circular*, October 7) advises a method of treatment which he described in a paper written a good many years ago as "abdominal taxis." This term was employed in order to distinguish it from taxis in hernia, and was intended to be applicable to certain manipulations used for the reduction of strangulated hernia within the cavity of the abdomen. Essentially differing from the conclusions of Mr. Treves at the recent session of the British Medical Association, who, in cases of acute obstruction, advocated absolute rest, and, if the symptoms do not promptly yield, early laparotomy, Mr. Hutchinson, in dealing with acute intra-abdominal obstruction of the bowel, recommends the following course: "First, the patient shall be placed in a state of anæsthesia to a full extent of insensibility, so that the abdominal muscles are all fully relaxed; then the surgeon is to manipulate the abdomen, pushing the intestines backwards and forwards vigorously as a mass; then he is to shake his patient after several strong assistants lift the patient, and shake the patient vigorously from side to side, and backwards and forwards; then he is to be held in the inverted position and vigorously shaken, so as to allow of any coil of intestine which may have been twisted having a chance of slipping back again. There are various other little details: for instance, he should be placed upon his back, with his feet on the bed, and shaken. Lastly, in these altered positions he is to have enemata given him, copious enemata, and this especially while he is inverted."

This appears like vigorous treatment,—certainly one which requires discrimination in the selection of cases. It is recommended in all cases of obstruction "in which no hernia can be discovered and where no diagnosis can be made, such as of intussusception," and where no more special mode of dealing with the cause of the obstruction can be adopted, and may be repeated daily until the patient is relieved or he passes into a condition where it is obviously useless. Full doses of belladonna are of great assistance, and in a good many cases a laxative may be judiciously used, such as Epsom salt in very small doses repeated every two or three hours.

The taxis should be resorted to, in Mr. Hutchinson's opinion, in every case of abdominal obstruction directly after it passes the limits of mere constipation and as soon as it has been made certain that the obstruction is not low down or owing to hernia. The patient should abstain from food, should receive rectal nutritive enemata, and be kept under the influence of belladonna and opium. Several successful cases are reported by the lecturer, one of which was relieved only after being tossed in the air upon a sheet, and afterwards stood upon his head while an enema was administered.

In elderly persons, where the site of the stricture is thought to be in the colon

itself, and probably malignant, lumbar colotomy is preferred to abdominal section. Where intussusception has been diagnosticated, laparotomy is advised; but the eminent lecturer thinks that the exploratory operation merely for diagnostic purposes ought never to be done. By this practice he believes lives have been sacrificed which might have been saved, and he accordingly enters a protest against early or exploratory laparotomy. In recording this opinion, however, he states that it is one which he holds subject to recantation in future years: in the further advance in surgery it may be found to be bad advice. There are some who may feel inclined to make this criticism now; but the experience and deliberate judgment of such an authority as Mr. Hutchinson are certainly entitled to most respectful consideration.

EXAMINATIONS TO BE REQUIRED BEFORE REGISTRATION.

BY the provisions of Section IV. of the Act of 1881, known as the Registration Act, the duty is laid upon the faculties of the medical colleges and universities in this Commonwealth of examining the diplomas of all persons desiring to enter upon the practice of medicine in this State by virtue of a diploma issued by any college, university, society, or association in another State or foreign country; "and the faculty, being satisfied as to the qualifications of the applicant and the genuineness of the diploma, shall direct the dean of the faculty to endorse the same; after which such person shall be allowed to register" in the manner prescribed by another section of this Act.

Hitherto the Philadelphia Colleges have merely passed upon the genuineness of the diploma, without testing the qualifications of the candidate; but, by a recent decision of the Supreme Court, the colleges must obey the literal construction of the law and satisfy themselves of the attainments of the applicant. Accordingly, Prof. Tyson, the Secretary of the Medical Department of the University of Pennsylvania, has just issued a circular announcing that "In the future, all persons desiring from the University of Pennsylvania the endorsement on the diploma demanded by Section IV. of the Act of 1881 will be required to pass an examination on chemistry, anatomy, physiology, materia medica and therapeutics, pathology and morbid anatomy, practice of medicine, surgery, and on obstetrics; failure in any branch will cause rejection."

A similar course has been decided upon at Jefferson College and the Medico-Chirurgical College, in conformity with the requirements of the law; and hereafter the Philadelphia schools will follow a uniform rule and will refuse their endorsement of any diploma, even if the genuineness is unquestioned, until they have been satisfied that the professional attainments of the applicant are at least up to the standard attained by their own students. This is, indeed, only justice to themselves, for their endorsement upon a diploma is popularly construed as being equivalent to conferring their diploma upon the applicant.

WE believe (1) that a successful and thoroughly creditable meeting of the International Medical Congress will be held in Washington in 1887.

2. That, in spite of malcontents and irreconcilables, existing difficulties will be successfully surmounted under the guidance of Drs. Flint and Davis and the Executive Committee.

3. That a way will be provided for those gentlemen who resigned under a misapprehension to return and accept the offices to which they were originally nominated.

4. That several aspiring Hamlets will be absent when the final cast is made for the play, and they will not be missed.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

THE different medical schools have now opened for the winter session. The addresses were delivered on the afternoon of the 1st, and on that morning the *Standard* (which takes a good deal of interest in medical matters) came out with a leader on "Medical Education in London." From time to time I have criticised the present teaching in what some readers might regard as a hostile manner, and attribute to the fact that my early efforts to become connected with a teaching hospital were not successful,—a fact which now causes me no regret. A few quotations from the leader, which is obviously written by a man familiar with the facts, may support the position and attitude taken upon the subject.

"It requires some exercise of the imagination to trace a resemblance between the Medical Faculty of London and that of any other European centre of learning whatsoever. Nowhere else is there so little of the academical spirit, so much indifference to organization, or so little trouble taken to select and appropriate for the great purposes of professional exposition and guidance those who have the true *facultas docendi*. The reasons assigned for this second-rate position are various. According to some, it is owing to the vexatious obstacles, like so many hurdles in a race, put in the way of all but those students with the longest purses and the greatest staying power in their endeavors to crown their term of study with a University degree. Others declare it is due to the hap-hazard way in which teaching appointments in the London schools are made, and the cynical maxims about the inutility of lectures which most of the metropolitan medical teachers have come to adopt. According to yet another set of critics, the reason is that medical science has become largely an affair of the work-room, demanding well-appointed laboratories, such as the schools attached to the London hospitals cannot provide unless they join their resources for the purpose, and to that extent efface their individual existence."

The writer then goes on to consider the position of the two great medical corporations which are now talking over the prospect of a conjoint examination which shall carry with it the coveted M.D., and says, "There is no room for doubt as to the particular duties that the two royal corporations are called upon to assume so as to entitle themselves to academic rank and privileges. The work lies ready to their hand, and has so lain for a good many years past." This is rather severe upon the corporations. He then invites them to put their best foot foremost, and evolve order out of chaos, to provide and control laboratories, and the professors of various kinds in all the great subjects of study, just as they now provide museums, libraries, and examinations. "Then, and then only, will they be entitled to ask for a charter conferring academical privileges." The millennium will arrive before they are qualified to ask for these academic privileges.

The College of Surgeons has a library, a museum, and examinations; but the Royal College of Physicians has only examinations, for its library is contemptible, and museum it has none. Neither has it funds to do anything with. It is as poor as a church mouse; while the College of Surgeons recently fell heir to something near a quarter of a million by the will of the late Erasmus Wilson, of skin-disease fame. How the College of Physicians is to comply with the writer's expectations it is not easy to see. "The College of Physicians has public duties as real as in the days of Linacre, although of a new complexion. They cannot and must not decline the growing obligations which circumstances conspire to urge upon them." It may be safely averred that it will carefully "conspire" how to get out of these "obligations." It has just issued a new Nomenclature of Disease, and made a mess of the Pharmacopœia; but for any healthy purpose it has neither capacity nor inclination. Instead of its once-honored position, it has now sunk to an object of derision, into a semi-respectable dotage, from which nothing less than a miracle can rescue it.

The most important address was that delivered by Jonathan Hutchinson, F.R.S., at the Yorkshire College, Leeds. He explained that, "a Yorkshireman myself, apprenticed and educated in my native county," it was a peculiar pleasure to him to address his audience. He went on: "So far as this world is concerned, we can find perhaps no better symbol of human life than that given by an evergreen tree. The leaves are the generations of men; the root, stem, and branches the social institutions by which each successive generation is borne up into higher life. We live in the most literal manner upon the past, and are what we are in virtue of its former life. If during any one year the production of leaves had failed, if they had been found unequal to their task, the death of the tree in part or in whole must have followed, and no further outbursting of the leaves would have been possible. Upon the vital vigor of each generation has depended, in the past, the growth of the tree. They were the digesters of its sap; they prepared its wood. It is, of course, a mistake to suppose that evergreen trees do not shed their leaves: they simply escape to a larger extent the influence of season, and retain their leaves longer than others; but, as any one who has stood under a fir will know well, their leaves are constantly submitting to

death when old, and are replaced by new ones. An evergreen, therefore, rather than one which becomes bare every winter, must be our symbol, and none perhaps better than the Norway pine. Any one musing upon the magnificence of this splendid tree may usefully remind himself of the beneficence of the law of individual death. It is thanks to that law that its growth has been attained and its greenness made lasting. Each successive generation of leaves has taken up the work of its forerunners, and, 'eager to do and die,' has in turn submitted to the same fate. The result has been increasing growth and perpetual youth. There has been permanence of life amidst unceasing change. So it is in the human family." The prejudices, the narrow formularies, and the erroneous conceptions of the past fall with the dead leaves. "No process of cleansing the battered, soot-begrimed leaves of last season could compete with nature's plan, which covers the tree with new and untarnished foliage."

He went on: "The law of limitation in reference to memory is, I think, not sufficiently taken account of in education. It is most clearly the fact that the packing of our minds is like the stowage of a cargo. We cannot put in more than a certain quantity. Dexterity in arrangement will go for something, but it has its limits, and when these are reached it is impossible to put in fresh articles without displacing those already there. The busy man with his mind hurried from one topic to another, and still more those whose minds are exposed to grief, sorrow, or anxiety, will realize this, and may sometimes amaze their less-occupied brethren by their capacity for forgetting. This physical limitation in the number of our brain pigeon-holes is a fact we will do well to remember. Do what we will to improve and develop our faculties,—and we can do very much,—yet sooner or later a limit is reached, and we are then compelled, however reluctantly, to choose what we will keep and what we must surrender to the waves of oblivion." He thinks the old suspicion, that the more a man knows outside of medicine the less he knows of his own subject, is not without some valid foundation. To some may be given the power to know several things, but not to all alike.

He then discussed "knowledge" and "wisdom," and showed the latter sprang from the former. "It is only when we begin to believe in earnest that we reap the reward of knowledge. The sceptic and the half-believer must not hope for the joys of faith. The mellowing influence of creed on character cannot come to him who doubts." For those who tremble for the consequences of our giving up the Mosaic cosmogony the following words will carry comfort: "It will require several generations for us to realize the full influence of recent revelations in science. The doctrines must have been taught familiarly in childhood, their influence must have been transmitted hereditarily, before we shall be able to see what it really is. It would shake my belief in the relation between cause and effect if I could doubt that the influence of modern knowledge in reference to the history of the world and of man, and the relations of man to animals, could be other than ennobling. We shall witness from such causes an increased sense of dignity in life. Mankind will become more sincere, more earnest, more sympathetic, more hopeful, and our gain in all these respects will be the result chiefly of increased confidence in terrestrial life." He thinks that Latin and Greek may be allowed to drop out of our scholastic education, to give way to matters of wider usefulness. Even in the matter of scientific terms, he thinks "the preference of the professors of science for terms taken from the dead languages is, again, the mere survival of a bad custom, and one from which it is our duty to free ourselves as soon as possible." He thinks a great many of such terms might as well or even better be expressed in English. Pedantic words are a hinderance to the spread of knowledge. Indeed, even the learning of modern languages is too much insisted upon, he holds. He was decidedly funny in his denunciation of this educational hobby. For many persons it is highly convenient to know one or more modern languages, but for the majority this is useless. "Far better that a young man should know well the general course of French history, and be familiar with the lives of its heroes, its men of science, and its saints, that he should have followed carefully the struggles of the Huguenots and watched the long-gathering causes which led to the Revolution, than that he should know ever so perfectly the irregularity of every French verb." Whether we agree or not with all Mr. Hutchinson said, few will refuse assent to this last expression of opinion.

He continued: "What I have wished to say is, simply, that we should do our best to put a right value on things, and not waste time and labor in planting laurel-bushes in mistake for apples. Let me urge once more, and even at the risk of being wearisome, that we must distinguish between the knowledge that is fruit-bearing and that which is likely to prove barren, however ornamental or fashionable it may be." Then, with a natural eulogy of Yorkshire and some good general advice about their work, he concluded: "Do not think lightly of your own individual value in this world's work, and always think hopefully of the world's progress. The world, you may feel sure, never had a more happy day than that in which you were born. Lest you mistake my meaning, let me hasten to add that it will be happier still on the day you die; and permit me to take leave in urging the reflection that the ratio of its gain in happinesss will depend in some degree, now and forever,

upon how you live." There is much material for thought in the great surgeon's address.

At University College the address was delivered by Prof. Schaefer, F.R.S., which, as might be expected from the Jodrell Professor of Physiology, took a physiological direction. He said, "In considering the matter of education for the medical profession, we must, first of all, understand clearly what it is that the education in question is designed to attain. It is important, above all, to remember that it is education for a profession, and not for a trade, that is required; and, more than this, for a liberal and learned profession." And this is what he holds: "There should be the same acquaintance with classics and mathematics, the same knowledge of the English language and literature, of history and of geography, and of one or more modern languages, which are regarded as forming the essential elements of the education of an English gentleman." He goes on about the importance of acquaintance with Latin and Greek in a manner the very opposite of Mr. Hutchinson. He then gave a cold shoulder to school teaching of science and physiology, and quoted some most amusingly incorrect answers to sundry questions in physiology. After leaving school, the youth who would enter medicine should give a year to physics, chemistry, and biology. "To take a lad straight from school,—or perhaps to allow him first to waste a year or more bumping about on country roads in a doctor's gig, under the idea that he is thereby acquiring an insight into medical science,—and to send him to study physiology, to say nothing of pathology, without his having acquired even the most rudimentary notions of chemistry, physics, and biology, is to compel him to learn that subject without understanding it, to rob it of all the interest which it possesses, and is fatal to the future comprehension of the physical and vital problems of medicine and surgery." He then goes on to talk like a man who never felt a patient's pulse or inspected a tongue, or sat in a solitary cottage half the night with a peasant's wife in labor. Fine country doctors his ideal students would be, heaven knows. No doubt he is right in insisting upon more intimate familiarity with the subject he himself teaches; and more time might be devoted to the physiology of the digestion, even at the expense of the origin and insertions of most muscles and other "dry anatomical details, many of them of no possible application, and most of which are often forgotten after the examination in far less time than they have taken to acquire." He would have the physiological laboratory to stand on an equal footing with the dissecting-room. He clearly distinguishes between physiology and "histology." As to such a physiological laboratory he says, significantly, "Be sure it will never be done so long as the present ruinous system between the London medical schools continues." He then criticises the present teaching of materia medica, and condemns it in no measured phrase. He said, "Both in teaching and in examinations the subject ought to be shorn of its preposterous proportions and reduced to its legitimate level." He then said, "Amazing as it may sound to a Continental reader, there is not a genuine pathological laboratory attached to a single medical school in this great metropolis. The only pathological laboratory I know of in London is that belonging to the Brown Institution, which institution, I may inform the intelligent foreigner, is a dispensary for dogs."

As to that department of physiology, the action of medicinal agents upon the living body, he says, "Probably not a single room is set aside for the carrying on of private research. Certainly there will not be found any means of enabling the intending medical man to study the action of those drugs which he is afterwards, often blindly and fortuitously, to experiment with upon his unfortunate patients."

As to examinations, he thinks the best plan would be to see how to do without them altogether; but, unfortunately, he does not see how this can be done. He thinks that the large sum bequeathed by the late Erasmus Wilson to the College of Surgeons ought to provide the expensive laboratories required for the proper teaching (in London) of medicine. "And why should not London obtain what other cities and towns find no difficulty in obtaining?" Why, indeed? There is something wrong somewhere.

At St. Mary's Hospital Mr. Pepper gave the address. He, too, was on the same string,—"The tension which at present exists betwixt medical education and the examinations." He did not approve of the London University lowering its standard in order that ordinary students should get an M.B. easily. He was in favor of a teaching university for London. If the medical corporations had any real "go" in them, they would do something after all the exhortations they received. He thought it possible to give an interest to otherwise dry anatomical details. "The action of the superior oblique muscle of the eye, as learned at lecture, was to the student of anatomy a mere fact and nothing more; and a few days would probably suffice to free his memory from a burden imposed neither by choice nor desire. But who would or could forget the bewitching lines of Longfellow?—

"'She gives a side-glance and looks down.
Beware! she is fooling thee.'"

Certainly, if Mr. Pepper can lecture on anatomy after this fashion, he will soon become even more popular than he is at present.

J. MILNER FOTHERGILL.

NEW YORK.

THE mortgage on the property of the Academy of Medicine has now been entirely paid. The announcement of this fact at the last meeting of the Academy was greeted with applause, and well it might be, for perhaps no other medical association in this country has risen to a higher position of usefulness in scientific and educational work, or commanded greater respect or exerted greater influence at home and abroad. While it has occupied a position of dignity, it has not been so aristocratic or exclusive as to cause any physician, however humble, to feel that he was not welcome to the use of the library or to profit by listening to the reading of papers and their discussion. The Academy has been having a large increase in its membership, which tends both to widen its usefulness locally and to add to its funds. The tendency of recent years to multiply medical societies, particularly in special branches, is perhaps nowhere more striking than in New York City. It is the plan of the Academy to have Sections in the principal departments of medicine. Heretofore this plan has been carried out only to a limited extent, but it is now receiving new life. In addition to the Sections already in operation, the organization of the Section in Surgery, with Dr. Stephen Smith as Chairman and Dr. Judson as Secretary, was announced at the last meeting of the Academy.

The question would probably suggest itself to all, Will this creation of Sections result simply in an increase in the number of medical societies in the city (of which we already have enough), or will the private societies now in existence become incorporated with the Sections of the Academy? If the latter event come to pass, it may prove an advantage to the profession in concentrating its forces and in presenting it as a united representative body which will exert a higher and a greater influence over the public, especially in matters of sanitation. But all probably would not feel convinced of the possibility of such a union, nor of its advisability. It might be claimed that generous rivalry would be an advantage as an incentive to scientific effort. Again, those who have risen to eminence in their profession, or have attained success financially, might feel at home in the select company of a few, while they would not care to appear in a general society among strangers. A man with an established reputation in the profession might lose nothing by being absent from a meeting or by not taking part in the discussion, while, if he should take part and allow his name to go on the records, some little-known men might seek prominence by having their names associated with his in debate. All medical men, even those who are most ethical, know that success depends upon reputation, and that there can be no reputation for one who is unknown. Consequently all desire a wide and a good reputation, but they wish to avoid dubious methods of making themselves known, such as by vulgar advertising and mention in the daily press. The physician who does a consulting practice is dependent largely upon his professional brethren, and his reputation is spread through mention of his name in medical literature and in connection with hospitals and other public institutions. When his reputation is once fully established in a certain branch of medicine, he will always be expected to take part in the discussion of any topic pertaining to that department, and he may prefer to associate only with those who have an equally well established reputation.

It is to the credit of our profession that its members generally do not take part in a discussion unless they have something of value to say; but now and then we meet with those who gain the reputation of being chronic talkers because of an apparent resolution always to say something in order that their names may enter the journals. Some of the private societies require of their members in turn to read a paper upon some subject, thus insuring good work at every meeting by prominent men. It would not, of course, be desirable to make such a rule in a general society. Again, societies from which any member of the profession in good standing would not be excluded might fall into ruts, or become governed by a clique. We have seen examples of this sort. Whether or not any of these facts would offer themselves as objections to merging the special societies into the Sections of the Academy, it is true that the officers of the Academy have strengthened their position by obtaining, as chairmen of Sections, generally those whose scientific work has given them an enviable reputation. The intention to keep the Academy an exclusively scientific body, if carried out, will secure it against the dangers of medical politics.

While on the subject of the Academy, I might add that the President has extended an informal invitation to the members and their friends to be present at his house on the evening of October 29. I might also say that the late President, Dr. Fordyce Barker, who had been ill, at last accounts was convalescing and able to go about.

The reports of the Board of Health have recently contained from one to four cases of smallpox weekly, but we have not yet had the outbreak which has been feared in view of the epidemic at Montreal. It is safe to say that we will not be afflicted with either cholera or yellow fever, at any rate before the return of summer.

The first fall meeting of the New York County Medical Association was held Monday, October 19, Dr. C. A. Leale, President. Dr. Frederic S. Dennis read a paper on "Fracture of the Patella," and showed illus-

trative cases of treatment by wiring the fragments. The treatment advocated was that of wiring the separated bones under strict antiseptic precautions, thoroughly cleansing the limb with soap and water and bichloride solution, and irrigating with the bichloride solution (one to three thousand) during the operation, the dressings being also antiseptic. Statistics since 1883 showed this operation to be almost free from danger to the life of the patient. Suppuration did not occur, union of the fragments of bone took place, as did primary union of the soft parts, and it was safe to allow the patient to be up on the third week. But it would be criminal for one to wire the fractured patella if he did not believe in antiseptics and should fail to carry out every detail of the method in a faithful manner. Dr. H. M. Biggs then showed the micro-organisms of osteomyelitis, and the President exhibited some nummulites from the foundation-stone of Cleopatra's Needle in Central Park. Dr. Faure, lately of the French navy, was introduced, and exhibited a serre-nœud of which he was the inventor. Dr. Gouley regarded it as the best instrument of the kind which had been made, and thought it would be especially useful to ovariotomists in exerting constant traction upon the ligature applied around the pedicle, tending to tighten it. R. C. S.

NEW YORK, October 21, 1885.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA ACADEMY OF SURGERY.

A MEETING of the Philadelphia Academy of Surgery was held October 5, 1885, Vice-President Dr. R. J. Levis in the chair.

FOREIGN BODY CAUSING VESICAL CALCULUS.

Dr. J. Ewing Mears: I desire to present to the Academy a urinary calculus removed from a patient in St. Mary's Hospital three weeks ago. The patient was a man from the interior of the State, 56 years of age, who had been suffering with bladder-trouble for nine months. There had been difficult micturition, with pain, and the diagnosis of inflammation of the bladder had been made. Six months ago, in order to relieve the difficulty in passing water, he said that he had introduced a straw some two or three inches long. He was under the influence of liquor at the time, and the straw slipped from his grasp and entered the urethra. His symptoms then became more marked, and he came to this city. I introduced a sound, and discovered in the bladder the stone or mass which you see. The urine was carefully examined, and it was found to contain a large quantity of albumen and also phosphatic deposits. The question arose, in view of the man's habits, his age, and the condition of the urine, whether it would be better to perform lithotomy or lithotrity or litholapaxy. Under the circumstances, I considered lithotomy the preferable operation.

I cut the man, and in so doing opened an abscess in the prostate, evacuating about an ounce of pus. I then entered the bladder and removed this cluster of calculi with a scoop. The bladder was then washed out, and in two weeks the man returned to his home with the wound entirely closed. At the end of this time, examination of the urine showed that its character was greatly improved.

It was certainly fortunate that section of the perineum was decided upon. The abscess was not recognized before operating, although exploration of the perineum was made. There was no pain, no swelling, and no tenderness.

The question arises in such cases as this, where the age of the man, his habits, and the composition of the urine indicate serious vesical and possibly renal disease, whether it is better to perform lithotomy or the crushing operation.

Dr. Levis: How would the introduction of a straw account for this fimbriated character of the mass? If a head of wheat or barley had been passed, it might explain it.

Dr. S. W. Gross: Close examination will show that this is a spear of some grain, and that these little calculi are formed around the hairs of the grain.

Dr. Nancrede: Could not the albumen in the urine come from the abscess in the prostate?

Dr. Mears: It did not seem possible that the abscess communicated with the bladder. When I opened the abscess, I at first thought that it was connected with the bladder; but further examination showed that such was not the case. The abscess might have been due to the impaction of one of these little masses in the duct of the gland, for I neglected to say that he had passed a number of these masses through the urethra.

EXCISION OF THE SCAPULA.

Dr. John Brinton: I have a specimen which I removed on Saturday last. It is of a good deal of interest: first, from the character of the tumor, and, secondly, from the magnitude of the operation required for its removal. The operation consisted in the removal of the entire scapula, performed on a girl of eleven years of age for a formidable tumor. I may say here that the operation was unsuccessful so far as the life of the child was concerned, as the patient sank rapidly from shock, and died an hour after the termination of the operation.

The history of the case is simply this. A little girl, 11 years of age, living in the interior of the State, while playing under an apple-tree growing on a declivity, caught hold

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of one of the branches and swung herself. The branch gave way, and she fell backward, rolling some six or seven feet, and striking the scapula upon a little projecting edge of stone. The pain from this continued for about an hour and then passed away, and there was no more trouble until last April, when she began to complain of pain over the right infra-spinatus fossa of the scapula. About the latter part of May or the early part of June swelling made its appearance, and gradually increased until the tumor assumed formidable dimensions. At the time I examined it, the base of the tumor measured fifteen inches in circumference, and the general thickness of the shoulder was four or five inches greater than on the opposite side. The child was suffering greatly. The pain during the daytime was somewhat paroxysmal, but during the night it was almost continuous. For a number of nights she received from ten to fourteen drops of laudanum to give relief. During the night preceding the operation she was carried in a chair, to give her as much rest as possible.

The case was seen in consultation, and the diagnosis of rapidly-growing sarcoma was made. It evidently involved the whole dorsum scapulæ. After looking up the statistics of the operation, I decided to attempt the excision of the whole scapula. I ought to state that the parents were fully apprised of the nature of the operation, and all the parties concerned accepted the risks, owing to the urgency of the case.

On Saturday last the child was etherized, and, beginning at the point of the acromion process, I made an incision, carrying it to the posterior edge of the scapula. The incision was not at first carried the entire length, because I wished to divide the acromio-clavicular articulation as soon as possible. The idea was to save every drop of blood that could possibly be saved. I had gathered from the reports of cases that the great peril was from hemorrhage. I therefore commenced with a moderate incision, so as to divide the acromio-clavicular articulation. The incision was then swept across to the posterior portion of the bone. An incision was next made at right angles, and the incision (somewhat curved) was carried below the angle of the scapula and the four flaps dissected up. Then I commenced at the upper part of the bone, dividing the muscles, and then passed slowly down, dividing the muscles,—taking the precaution, where there was any chance of considerable hemorrhage, to include the mass of muscle within a ligature before dividing it. Where there was no danger, a mass of tissue was grasped between two large forceps, such as I formerly used for the extraction of bullets. The incision was then carried along the posterior border and the muscles divided; it was next carried under the inferior angle of the bone and the parts raised. The incision upon the anterior costa of the scapula was carried up, the vessels being compressed; and thus, the parts being lifted, I opened the capsular ligament and turned out the head of the humerus. I next divided the heads of the muscle attached to the coracoid process. I had already divided the muscles along the spine. The bone was then readily lifted up, and the hemorrhage was comparatively small. Performing the operation in this way, only one or two vessels required ligature after removal of the bone.

Examination of the tumor shows that it consists of two portions; that upon the dorsum has been incised, and my finger goes directly to the bone, which is entirely destroyed, showing that the growth sprang from the periosteum. In examining the case before the operation, Dr. Gross and myself noticed a mass inside of the axilla. I then thought that the mass must depend upon a prolongation of this mass of morbid structure. It, however, depended upon a mass of tissue developed from the venter of the bone. These masses are continuous at the junction of the upper and middle thirds of the inferior costa. It was the posterior mass which projected into the axilla. This lifted the scapula from the chest and increased the apparent size of the tumor on the dorsal surface.

Statistics show that the mortality following the operation is greater where a portion of the bone is left than where the entire bone is removed. In forty cases of entire removal, the mortality was twenty per cent.; after partial removal, twenty-one or twenty-two per cent. Where the scapula was removed after amputation of the arm, the mortality was twenty-four per cent.

The microscopical examination of this growth by Dr. Longstreth shows that it is a well-marked example of round-celled sarcoma.

One other case of complete excision of the scapula was performed by Professor Agnew some years ago. The patient died in a short time from shock. Two partial operations were performed by the late Professor Gross.

Dr. R. J. Levis: Once, when contemplating an operation of the same kind on an adult with a large tumor,—an operation which I did not perform,—I determined upon an expedient to prevent severe hemorrhage. That was to tilt out the scapula and apply Esmarch's bandage around it, enclosing the axillary artery high up. To prevent slipping, a bandage was to be placed in front, under the rubber tube, drawing it to the opposite side.

Dr. J. Ewing Mears: We would not expect much hemorrhage from a tumor which seems, as this does, to be, as it were, enucleated. In this case the muscles are not attached to the growth. Where, however, there is a malignant growth which infiltrates the tissues and

envelops the ramifications of the blood-vessels, the bleeding may be severe and prove fatal.

I would ask Dr. Brinton if, when he turned up the mass towards the axilla, he brought into view the axillary vessels.

Dr. Brinton: I did not. I saw the subscapular artery and nothing else.

Dr. Mears: I refer to that point for this reason: that in some cases, where the growth involves the entire arm, it is necessary to extirpate the scapula with a portion of the clavicle, and also the entire arm, and it has seemed to me that in such cases it might be possible, by tilting up the scapula, to reach the axillary artery and surround it with a ligature before amputating the arm. I have not found this method of controlling hemorrhage prior to disarticulation referred to.

In considering the mortality-rate after excision of the scapula, it is desirable to consider the causes for which the operation is performed. It has been performed for necrosis, for gunshot injuries, and for tumors such as enchondromata, sarcoma, and malignant growths. In necrosis of the entire scapula, where the disease is of some duration and where there is great inflammatory thickening of the periosteum, removal of the scapula is comparatively easy. An incision made along the spine to the posterior border and then continued along the posterior border will enable the operator to lift the periosteum with an elevator periostome or the handle of a knife. In that way the muscular attachments may be severed. Such an operation gives a better mortality-rate than do operations for malignant growths, and, if I remember correctly, better than for operations for the removal of portions of the bone in compound comminuted fractures, the result of gunshot injuries.

Dr. Brinton: In this case there was no difficulty in compressing the subclavian artery with the finger. This was done by Dr. Hearn. In some of the reported cases the pressure has been made directly. In some of these cases, as soon as the acromio-clavicular articulation has been severed, the coracoid process has been broken and pressure made directly upon the artery.

Dr. Levis: Did the patient seem much depressed by the anæsthetic?

Dr. Brinton: She came from under the ether very well.

Dr. Hearn: The child was never thoroughly anæsthetized at any time. I do not think that the anæsthetic had anything to do with the fatal result.

CONGENITAL MALFORMATION OF THE COLON.

Dr. Charles B. Nancrede: I have here specimens of some little interest. They are the terminal part of the rectum and the caput coli, which were removed from an infant 50 hours old. The child had been delivered with instruments, and seemed to be in perfect health until the second night, when the nurse sent for me and said that there was something wrong,—that the child was crying and straining, but had not soiled any napkins.

On examination, I found a well-formed anus, into which I could introduce my finger one-third of an inch. It was a female child, and I could therefore make a thorough examination; but I could detect no bulging at any point. As it was twelve o'clock at night and the distention was not great, I gave an opiate, and the next morning at eleven o'clock Dr. Ashhurst met me in consultation. Neither of us could feel any bowel, but we thought it right to make an effort to reach the bowel. I dissected along the hollow of the sacrum up to the promontory, but could not feel the gut. We then decided to perform the operation in the right inguinal region, and I opened what I supposed to be the sigmoid flexure; but it proved at the post-mortem to be the caput coli. As soon as the peritoneal cavity was opened, about an ounce of serum escaped, and with it the right Fallopian tube, which was intensely congested. There was marked peritonitis. The child lived four and a half days after the operation. The meconium passed freely, and afterwards the discharges were natural. The child died from exhaustion, evidently due to the peritonitis.

The post-mortem showed that if I had detected the bulging bowel, which I must have felt, as it was near the end of my incision, I should almost inevitably have cut through two layers of peritoneum. There was a space about as wide as a director where the bowel was not covered by peritoneum, and I should have left behind the peritonitis. The question arises in these cases, if peritonitis does set in so early, and if death results, as it usually does, from peritonitis, whether it is worth while to add the double danger of two operations, especially in female children where it is impossible to detect any sign of the bowel.

Dr. Levis: Does Dr. Nancrede think well of operating before the sac becomes distended?

Dr. Nancrede: Unless something is done, the patient dies early. I notice that Bryant has called attention to the fact that peritonitis sets in very rapidly, and that in true obstruction death is frequently due to peritonitis. In this case the peritonitis was very marked at the end of fifty hours.

Dr. Levis: I have never done any operation except in the fundament. I would not like to save a child's life with an anus anywhere but in the fundament. I have always been able to find the sac and to bring it down and stitch it to the skin.

Dr. O. H. Allis: At the post-mortem, how far were the two blind sacs from each other?

Dr. Nancrede: I should say about an inch. I must have touched the bowel with my finger, but did not recognize it. Bryant strongly

advocates the operation in case of deficient rectum, and the opinion of a man who has had such an exceptionally large experience in the surgery of the bowel in general, having reported eighty-two or eighty-three colotomies, ought to count for a good deal. There seemed to be no more difficulty in retaining the fæces in this case than where the anus is in the normal position. Sometimes hours would pass without anything coming. In this case I think it would have been impossible to bring the bowel down and stitch it.

TREATMENT OF CARBUNCLE.

Dr. James Collins: I have lately treated two cases of carbuncle on the back of the neck by a method which seems to have some advantages. The patient is put under the influence of an anæsthetic, and a linear incision made. I then take a scoop and remove all the necrosed tissue, and wash the parts thoroughly with an antiseptic solution of mercuric chloride. I then put in a drainage-tube, and insert two stitches to bring the central part together. Each day the cavity is thoroughly washed out with the antiseptic solution. The patients have done well, and the cicatrix has been less than after any other method I have tried. The success depends upon the removal of the necrosed tissue and the use of the antiseptic solution.

Dr. S. W. Gross: The plan of Dr. Collins is, I think, based upon proper principles. I consider it far the best operation yet suggested. By scraping away all the dead tissue he gets rid of the micrococci which produce putrefaction, which give rise to the sloughs. The application of the corrosive sublimate destroys the micrococci which line the walls of the cavity, and in that way removes the cause of the disease.

Dr. Mears: I would ask if Dr. Collins, in scooping out the dead tissue, found anything like a thickened wall limiting the mass to be removed, and if he was able to satisfy himself that he has removed all the dead tissue.

Dr. Collins: I keep on scooping out until I reach a denser structure. The difference seems to be in the denseness of the tissue. The healthy tissue seems to be firm.

Dr. Levis: The operation of excision of carbuncles in their incipiency has been repeatedly advised and practised. In cases of constantly-recurring carbuncle I think that excision would be of service.

Dr. Hunt: I have been trying to recall a case of carbuncle on the back of the neck of a woman. I cannot recall a case. I would ask if this is the experience of the other members, and, if so, what reason can be given for this peculiarity.

Dr. Collins: I remember one severe case.

Dr. Levis: I cannot recollect a case.

Dr. Nancrede: I have seen a fatal case in which the carbuncle was on the side of the neck of a woman.

NITROUS OXIDE GAS IN THE EXAMINATION OF FRACTURES.

Dr. J. M. Barton said: I was obliged, during the last three months at the German Hospital, to examine an unusual number of fractures under an anæsthetic, as many of them were near the larger joints, and the character and extent of the bony lesion could not otherwise be appreciated. In the neighborhood of the ankle-joint alone, out of a large number examined, there were sixteen cases in which fractures were found. In many of these cases the line of fracture is quite transverse, running through one or both malleoli, but owing to the spasmodic contraction of the muscles the parts are held firmly in place, and without an anæsthetic it would be difficult to say that any bony lesion existed.

With ether many patients struggled so during the period of excitement that I often feared they might seriously complicate the existing injury. Indeed, the struggles of some of them were so threatening that I treated several cases without having administered an anæsthetic, preferring to take the risk of not fully knowing the extent of the injury rather than that a simple fracture should become compound while making the examination.

Early in March I obtained for the hospital, from S. S. White & Co., an apparatus consisting of an iron cylinder containing one hundred gallons of liquefied nitrous oxide gas, a gas-bag of seven and one-half gallons' capacity, and the necessary tubing, mouth-pieces, etc.

On March 6 the gas was administered to Marie B., æt. 26 years, servant-girl by occupation. She became fully unconscious without any struggling whatever. Fractures of the tibia and fibula were discovered, and their lines fully recognized and noted. The recovery from the gas was, of course, prompt.

March 16. Hugh C., æt. 53, laborer, a stout Irishman of probably bad habits, and whom I should have expected to struggle violently under ether. He took the gas quietly and without a struggle. I made a full and careful examination. Both the tibia and fibula were fractured. The line of fracture was fully recognized and noted.

March 21. M. S., æt. 22, baker. Had ingrowing toe-nails. Both sides of both great toes were removed under "nitrous oxide," Dr. Rehfuss, the resident physician, operating upon one toe and I upon the other. The patient stated that he had not felt a particle of pain.

March 23. Anton C., æt. 38, wagon-builder, was examined under "the gas." A comminuted fracture of the tibia was discovered, and the position, size, and obliquity of the pieces noted. In addition, a fracture of the fibula at the junction of the lower and middle thirds,

and another just below the head, were discovered.

March 27. Ellen S., æt. 42 years, servant, was examined under nitrous oxide, and a Pott's fracture found.

During this time, in private practice, I refractured a radius in the case of Miss L., using nitrous oxide as the anæsthetic. The patient was fully unconscious, and I had no more difficulty than if ether had been used.

I would call the attention of the Fellows mainly to the advantages of nitrous oxide in the examination of fractures. Its advantages in all minor operations, of course, are familiar. That it does not cause nausea or vomiting, even if the stomach be not empty, the slight risk, the immediate recovery, permitting the patient to attend at once to his usual vocations, etc., are well known; but in fractures we avoid that period of excitement which appears during the administration of ether, and during which the patient is so likely further to injure the fractured limb.

The period of full anæsthesia is from one to two minutes, but the period of total muscular relaxation is nearly four minutes.

While the anæsthetic is being administered the injured limb is fully exposed and held by the surgeon. Before the patient is quite unconscious the surgeon feels the limb become limp and lax in his hand; all the muscles are relaxed. The examination can now begin, though the patient gives some slight evidence of feeling pain. This period, the period of total unconsciousness, and the succeeding period of muscular relaxation, give about four minutes, which I have found to be abundant time to examine almost any fracture.

Nitrous oxide has been but little used in surgery, owing to the difficulties of keeping and transporting it; but the apparatus which I show you here, and which is furnished at a moderate price by the dental supply depots, overcomes these objections, and I am sure it will be found of service in many minor operations. I am well aware that some of the Fellows of the Academy have used this anæsthetic for a long time and have had great experience in its use; but I also know that very few, if any, of the hospitals use it, and it is not nearly so much used in surgery as it should be.

Adjourned.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, SEPTEMBER 24, 1885.

The President, E. O. SHAKESPEARE, M.D., in the chair.

DR. WILLIAM OSLER presented specimens of

TÆNIA ECHINOCOCCUS.

This rare parasite was reared experimentally by feeding a dog with hydatids from the liver of a pig. The animal was killed about seven weeks after the feeding, when the small intestine was found to contain many hundreds of the mature tape-worms. The portion of bowel exhibited had many adherent to the mucous membrane. From the small size of the worms, only a few lines in length, they are very apt to be overlooked. Cobbold states that the only specimens procured in England have been experimentally reared. Dr. Leidy has never met with the adult worm in this country. That it must occur here in the dog is very evident from the frequency with which echinococcus cysts (the larvæ) are met with in the hog and other animals.

CYSTICERCUS CELLULOSÆ.

Dr. OSLER exhibited the heart, brain, and a portion of the flesh of a pig containing the "measles," as the larvæ of the tænia solium are called. Both organs were thickly studded with the cysts, which are also very numerous throughout the muscular system. The animal was fat, and had seemed to suffer very little inconvenience. Attention was called to the cysts beneath the tongue, and to the possibility of telling whether an animal was measled by an examination of this part during life. Microscopic slides of the parasites were shown, and a slide of a cystocercus, with a very large caudal vesicle, from the omentum, in which situation they may grow to the size of a walnut.

DISTOMA HEPATICUM: EFFECTS ON THE LIVER.

Dr. OSLER also showed the liver of an ox, with enormous enlargement of the bile-vessels and calcification of their walls due to the chronic inflammation excited by the presence of the flukes. The main ducts were thicker than the thumb, and even the smaller tubes were hard as the stem of a clay pipe. The liver-substance was wasted, but not cirrhotic. In spite of this extensive disease, the animal was well nourished. Specimens of the flukes in spirit and mounted were also shown.

Dr. WILLIAM PEPPER presented before the Society the specimens of

TÆNIA FLAVO-PUNCTATA

described by Prof. Leidy in the *American Journal of the Medical Sciences* for July, 1884. This species has never but once before been seen and recognized, and then by Weinland, of Boston, in 1858. Both specimens were expelled from young children, and averaged twelve inches in length.

Dr. PEPPER also presented the head and neck of a specimen of

TÆNIA MEDIO-CANELLATA.

It occurred in a young man. A course of starving followed by castor oil and pelletiérine removed a portion of the worm; afterwards a repetition of the starving process, without the castor oil, but with the alkaloid, brought away the entire worm dead.

Dr. Pepper said he was particularly interested in this series: it spoke forcibly of the necessity of studying comparative pathology. The specimens were very perfect, and more instructive than more highly organized species. In practice, he had found the tænia mediocanellata as difficult to expel as the tænia solium. The exhibition of the small variety, the flavo-punctata, taught the necessity of careful examination of the stools.

Dr. DE SCHWEINITZ exhibited the kidneys, ureters, and bladder from a man who died after the operation of

LITHOLAPAXY.

The patient, æt. 73, had for two years previous to the operation suffered with straining during the act of micturition, and other symptoms of hypertrophy of the prostate gland and vesical calculus. The urine contained albumen, pus, epithelium, and granular casts, and had a sp. gr. of 1.018. The patient's habits were intemperate. The operation of litholapaxy was performed, marked difficulty having been experienced in the introduction of the instruments.

After the operation the patient exhibited great restlessness, præcordial pain, and a rapid, feeble pulse. Later he became comatose, and died twenty hours after the operation, the immediate cause of death being apparently the formation of a heart-clot.

The post-mortem examination was made about ten hours after death:

Body well made; nothing of note anteriorly; the usual ecchymoses posteriorly.

Thorax.—Old pleuritic adhesions on the right side; left side free. Lungs crepitant, with slight posterior congestion. Heart surrounded with fat; muscular fibres flabby; valves normal; firm "chicken-fat" clot with right ventricle.

Abdomen.— Position of viscera usual. Marked deposits of fat in the omentum. Liver slightly enlarged, soft, but otherwise normal. Both kidneys granular and containing cysts. Bladder thickened, and showing two spots of ecchymosis on the mucous surface. Prostate enlarged; other organs normal. Brain and membranes not examined.

DISCUSSION.

Dr. TYSON thought this case added one more to the list showing the impropriety of crushing for stone when kidney-disease was present. He did not know why, but under such circumstances the cutting-operation was more suitable. Dr. Tyson cited the case of Louis Napoleon as an instance of the danger of crushing in the presence of kidney-disease. Dr. Tyson said, in answer to a question of Dr. Barton's regarding the kidneys, that they were contracted, though not markedly so, as there was good secreting structure left. The cysts were part of the pathological anatomy of granular kidney. He believed the cause of death to be uræmia.

Dr. G. G. DAVIS said that in such cases a post-mortem examination was in reality of the nature of an investigation. Death might be due to direct violence done the urethra, the prostate, or the bladder; or it might be due to extension of inflammation to the peritoneum, or to unknown cause, as in the present case.

Dr. DE SCHWEINITZ said that the urethra was not examined, and agreed with Dr. Tyson that the cause of death was uræmia. This was the more probable because an officious attendant, against orders, had administered rather full doses of morphia.

Dr. HENRY BEATES presented a specimen of

SYPHILITIC ABSCESS AND NECROSIS OF THE TIBIA REMOVED BY AMPUTATION AT THE MIDDLE OF THE THIGH.

The patient was a strumous man, who, three years previously, had suffered from an attack of obstinate sciatica, accompanied by a marked degree of muscular atrophy of the affected limb, followed by lameness. Two years later a swelling developed at the femoral side of the gluteo-femoral crease, which opened and discharged small fragments of necrosed bone. The sinus was finally healed, and fair health enjoyed for several months. Seventeen weeks ago osteitis of the tibial head developed, followed in a short time by suppurative synovitis. The pus perforated the ligamentum posticum and burrowed beneath the gastrocnemius, elevating it and the posterior tibial muscular structures from the bone. Free incision evacuated this, but the destructive process continued, resulting in the formation of sinuses and complete disintegration of the joint. Hectic was pronounced, and to save life amputation was performed on the day previous.

Longitudinal section through the femur-joint and tibia discloses the extensive destruction effected in so comparatively short a time. The articulating surface of the condyles is denuded of its cartilage, and the surface of the bone is roughened. The patella is bound firmly to the trochlear portion of the condyles. The articular elements are destroyed. The head of the tibia is completely necrosed and broken down. The medullary canal of the tibia throughout its entire extent is infiltrated with pus. The surface of the bone is also the seat of the morbid process. The pus from the joint has burrowed upward beneath the internal and external vasti muscles, and deprived the femur of its periosteum for a considerable distance. The anterior face of the tibia is similarly denuded, while the crest at the middle is the seat of ulceration. At the time the disease occurred, the patient first noticed a chancre. Six weeks later the secondary phenomena developed, and were

promptly met with antisyphilitic remedies. Was the strumous disease influenced by the syphilis?

The specimen was referred to the Committee on Morbid Growths for microscopical examination, with instructions to look for tubercle-bacilli and for those said to be peculiar to syphilis.

DISCUSSION.

Dr. DAVIS was desirous of knowing if the disease of the head of the tibia was due to scrofula or syphilis: the worm-eaten character of the ulcer on the tibia looked like syphilis.

Dr. CHARLES M. WILSON inquired if there had been fevers, rigors, and evidences of pyæmia in this case. It was undoubtedly one of osteomyelitis, and in a similar case of traumatic origin which he had exhibited rigors had been present.

Dr. JURIST asked how the presence of acute syphilis in the patient would affect the prognosis of the operation.

Dr. BEATES replied that there had been symptoms of septic fever, and, as the acute symptoms of syphilis had been absent for some weeks, he did not think this would mar the prognosis.

DEATH FROM ŒDEMA OF THE GLOTTIS.

Dr. LOUIS JURIST presented the larynx and trachea removed post mortem from the body of a man, æt. 38, a book-keeper, who had suddenly died. He had not had syphilis. He had taken cold on Saturday and had a sore throat; on Tuesday he chatted with the doctor, and an examination gave no evidence of anything except ordinary pharyngitis; on Wednesday he went to his business; on the evening of that day the doctor was sent for in haste, and, on going at once, found the man dead. Nevertheless, a hurried laryngotomy was done and efforts were made to restore the heart, but without avail.

Dr. Jurist removed the larynx through the thoracic cavity. He was in doubt as to the mode of death. The lungs were fairly healthy, though cheesy on one side. There must have been an abscess present.

Dr. TYSON was surprised that marked improvement should have followed the treatment by emetics and sedatives, as the abscess must have been present: perhaps the outlying œdema was subdued and the condition thus improved.

Dr. WHARTON had not had experience in such cases, but agreed with Dr. Jurist that the operation of tracheotomy, and not laryngotomy, was indicated.

Dr. JURIST was in doubt in regard to the diagnosis: it rested between perichondritis and a subsequent abscess or phlegmonous laryngitis. He was inclined to the former view.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held October 14, 1885. GEORGE F. SHRADY, M.D., President *pro tem.*, in the chair.

MELANO-SARCOMA OF THE FACE.

Dr. JOHN A. WYETH presented a woman, aged 70 years, who had noticed a little tumor upon the left side of the face several years ago. It finally began slowly to enlarge, and four years ago was treated by an escharotic of some form, which left a scar and depression. Recently Dr. Fox saw the patient, made a diagnosis of melano-sarcoma, and sent the patient to Dr. Wyeth for operation. The incision extended from upon the nose an inch and a half outward upon the cheek, and a quarter of an inch below the palpebral border. The gap was filled in by integument drawn over the malar bone. Union took place by first intention and showed a very good result; there was no ectropion. The operation had been done two weeks ago. The points of interest were, the comparative rarity of the disease, and the fact that it illustrates the great vitality of the tissues of the face, and the ease with which one could fill up gaps by a carefully-performed plastic operation.

CAST OF THE BLADDER.

Dr. H. J. BOLDT presented a cast of the bladder, which was obtained in the case of a woman 18 years of age who had recently been confined with her first child. Labor was normal, but soon afterwards she felt pain in the hypogastric and lumbar regions, and examination showed albumen, blood, and a small quantity of pus in the urine. The temperature was 102.6°. The diagnosis of catarrhal nephritis was made. One day while urinating the patient felt an obstruction in the urethra, and on making examination subsequently Dr. Boldt felt a membrane at the urethra which he believed to be partial inversion of the bladder, and replaced the presenting part. It again protruded on several occasions, and Dr. Lusk saw the patient in consultation, and likewise expressed the opinion that there was a tendency to inversion of the bladder. The presenting sac became somewhat putrid, and was sprinkled with iodoform. It was finally discharged, and Dr. Boldt expressed the opinion that it was composed of mucous membrane, submucous tissue, and perhaps some of the muscular fibres of the vesical wall. There seemed to be complete denudation of the bladder, and its walls afterwards became thickened, and contracted upon the cavity. The temperature rose, and soon after the expulsion of the membrane the patient died with cerebral symptoms, thought to be of septic origin. An autopsy could not be obtained. Death took place about twenty

days after confinement. Dr. Boldt said such cases were extremely rare; but few had been recorded in Europe, and he believed none in this country. The patients invariably died.

Dr. CARPENTER thought a case of cast of the bladder had been reported to this Society, and also to the New York Obstetrical Society.

Dr. PRUDDEN expressed doubt as to whether the specimen was the mucous membrane of the bladder and not a new formation.

LARGE SARCOMA OF THE OVARY.

Dr. CUSHIER presented a very large sarcomatous tumor removed from the abdominal cavity, attached to the uterus, but probably having its origin in the left ovary. It had grown rapidly, and had greatly reduced the patient's strength. Dr. Hunter saw the patient in consultation, and an exploratory incision was made; but the nature of the growth and its adhesions deterred them from removing it. The patient died five days later of exhaustion and disappointment in not having the growth removed. The retroperitoneal glands were enlarged, and there were some nodules in the lungs. The great rarity of sarcoma originating in the uterus, pointed out by Leopold, led her to believe this one began in the ovary, although the microscopical examination failed to decide this question conclusively. The growth was composed of round and spindle cells.

DERMOID CYST OF THE OVARY.

Dr. CUSHIER also presented a dermoid cyst of the ovary removed on Thursday last. The tumor had grown rather rapidly. Its attachments were numerous, but not firm, and it was removed without difficulty. The hair was limited to a small pouch in the larger sac, the greater cavity containing chiefly sebaceous matter.

DEATH FROM CONGENITAL CYANOSIS.

Dr. L. E. HOLT presented the heart, lungs, and kidneys removed from the body of a child which died forty-eight hours after birth. It weighed between four and four and a half pounds, was cyanotic at birth, breathed very rapidly, the pulse could not be counted. It died quietly. The lungs sank in water, were firm; it was scarcely possible to find any distended air-cells with the unaided eye. The foramen ovale was sufficiently large to admit the tips of two fingers; the valves were not abnormal. The spleen was twice its normal size, hard, and congested. The kidneys showed interstitial inflammation and uric acid infarctions. There was a decidedly syphilitic history, and it was a question whether this disease may not have been connected with the abnormalities mentioned.

The Society adjourned.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held October 15, 1885, A. JACOBI, M.D., President, in the chair.

THE COMPARATIVE RESULTS OF SURGICAL OPERATIONS IN BELLEVUE HOSPITAL.

STEPHEN SMITH, M.D., the author of the paper, thought there was no better place in which to test the progress of practical and operative surgery than in the wards of Bellevue Hospital. This institution had within its walls and environments all the conditions which would now be regarded as unsanitary. Although many changes had been made within the interior, the serious defects of locality and construction still remain unaltered. During nearly the entire thirty-five years during which Bellevue had been a surgical hospital Dr. Smith had been personally familiar with the practice in the several surgical divisions. The practice of surgery had within the period mentioned undergone so complete a revolution that one of the older surgeons would scarcely realize that he was in the same hospital where he had practised a few decades ago. At that time, before the introduction of anæsthetics, the chief principle which actuated him in his operations was celerity; but now, while the surgeon desires to render the period of anæsthesia as short as practicable, mere celerity was mentioned only to be condemned.

The author then contrasted the several details of former surgical procedure with the practice of to-day. Before the use of antiseptics, little thought was given to securing cleanliness. The surgeon placed his cutting-instrument (when not in use) wherever it was most convenient; the ligatures were carried in his pocket; the accumulated secretions of the skin and other filth were allowed to remain on the limb even during major operations. In his personal preparations the surgeon sought only to avoid soiling his clothes; the bystander was asked to examine wounds with unwashed hands; the sponges were carriers of filth, and were only washed in simple water; one end of the ligature only was removed, the other being left to make traction upon when final separation from the vessel should take place; suppuration was expected, and the wound was left open at the most dependent portion to allow of the escape of pus; adhesive plaster was applied which had not been rendered aseptic, and the stump was wrapped in unbleached muslin which had not been specially cleansed.

The methods in use at the present time were then placed in contrast with those of the past. The surgeon formerly prepared the wound for suppuration, while he now dressed it for union without suppuration. Both uniformly realized their expectation. As a result of former methods, the surgeon

had pus, fever, septicæmia, perhaps pyæmia, exhaustion of the patient; and in major operations, as larger amputations, etc., death often ensued.

The dictum of Hunter, that compound fractures commonly suppurate, was formerly the guiding principle, but to-day compound fractures were welcomed to the wards of the hospital as a class of cases which gave most satisfactory results. Amputation was not thought of except where arteries and nerves were so destroyed as to prevent nutrition. The treatment now pursued in compound fractures is designed, first, to remove from the wound every particle of matter liable to injure the tissues and induce suppuration; second, to place in fixed apposition the various tissues involved in the wound; third, to cleanse and disinfect the wound and protect it from becoming soiled during recovery; fourth, to protect the wound from any movement of the parts entering into it while the process of repair is going on.

Formerly, the excision of large joints was a most dangerous operation; but now these wounds, as a rule, healed by rapid and healthy granulation. Perhaps the most marked illustration of the great improvement in operative surgery in Bellevue Hospital might be found in the unvarying success which now attended the treatment of simple fracture of the patella by wiring together the fragments.

Septicæmia and pyæmia are now seldom seen in the pavilions devoted to gynæcology. Since November, 1883, Dr. Wylie had performed laparotomy thirty times, with five deaths. Of the cases proving fatal, two were hysterectomies, one for cancer of the uterus, and the other two for myomata weighing fifty pounds.

Cleanliness was the one great object sought to be obtained in all operations. The conditions regarded as essential to success might be summarized as follows: a clean operator, clean assistants, a clean patient, clean instruments, clean dressings.

Dr. A. C. Post was prepared to accept the statements of the author regarding the efficiency of thorough cleanliness of wounds. He thought, however, that there is still some doubt as to how far antiseptics, so called, contributed to the success of operations. But thorough cleanliness is, without doubt, a very important matter in the treatment, and seclusion of the wound from external malign influences is also a very important item. His reason for doubting somewhat the part played by antiseptics in the treatment of wounds was founded upon the experience of the most eminent gynæcologists of Great Britain, Mr. Tait and Mr. Keith, who regarded antiseptics as not only useless, but as pernicious,—claiming, indeed, that they add slightly to the mortality. But, at the same time, they both insist very strongly upon entire cleanliness. There can be no doubt as to the great improvement which has taken place in the treatment of surgical wounds, whether that improvement is to be referred to the antiseptic methods directly or to cleanliness.

Dr. W. G. Wylie did not know whether we should have ever known the full value of cleanliness had it not been for the introduction of antiseptics. Antiseptics had done a great deal of good; but, like all other good things, they had been carried too far, and there was now somewhat of a reaction against them. If the methods of Tait and Keith are studied, it will be seen that if they do not use antiseptics it is because they secure such complete cleanliness that antiseptics are not necessary. If he could feel perfectly satisfied that he could always secure entire cleanliness, he might give up the use of antiseptics.

Dr. F. V. White asked Dr. Smith what had been his results from the use of the wire in fracture of the patella; whether or not he had gained bony union.

Dr. W. M. Carpenter had been for many years an observer of the treatment of surgical wounds in the Bellevue Hospital, and had been able to trace the results in the fatal cases as they appeared at autopsy. Formerly, before the adoption of antiseptics and cleanliness, surgical kidney, etc., was not of infrequent occurrence; but it had now become a thing of the past. The so-called surgical kidney was no more to be seen in the dead-house.

Dr. Smith, in closing the discussion, said he had not intended to dwell specially on the subject of antiseptics, but he might say that his own opinion was that extreme cleanliness had secured the present excellent results in surgical practice in Bellevue Hospital. Antiseptics, he thought, have simply brought us to a knowledge of the necessity of cleanliness; they are adjuvants to cleanliness. But those surgeons who ridicule antiseptic methods are doing harm, for not every one who follows their advice in discontinuing the use of antiseptics would be able to secure the degree of cleanliness which they obtained by other means. Besides, they do make use of carbolic acid, etc., in cleansing sponges and preparing for the operation.

In answer to Dr. White's question, he said that he had wired the fractured patella seven times, and had obtained what appeared to be bony union; but whether it was so or not he could not positively say.

The Pathological Society of Philadelphia, at its semi-annual meeting held on the 22d instant, was addressed by Dr. J. Collins Warren, of Boston, whose theme was "A Comparison of the Changes in Arteries after Ligature and in the Ductus Arteriosus after Birth." Later in the evening a reception was tendered to Dr. Warren at the St. George Hotel. A lunch was also given to Dr. Warren by Dr. J. C. Wilson.

NEW BOOKS.

A Practical Treatise on the Diseases of Children. By Alfred Vogel, M.D. Translated and edited by N. Raphael, M.D. Third American from the Eighth German Edition, Revised and Enlarged. Illustrated by Six Lithographic Plates. New York, D. Appleton & Co. 1885. Pp. 637.

The Science and Art of Midwifery. By William Thompson Lusk, A.M., M.D., etc. New Edition, Revised and Enlarged. With numerous Illustrations. New York, D. Appleton & Co. 1885. Cloth, 8vo. Pp. 763.

Alpine Winter in its Medical Aspects. With Notes on Davos Platz, Wiesen, St. Moritz, and the Maloja. By A. Tucker Wise, M.D., etc. Second Edition. London, J. & A. Churchill. 1885. Pp. 121.

The Physician Himself, and what He should Add to his Scientific Acquirements in Order to Secure Success. By D. W. Cathell, M.D. Fifth Edition, Thoroughly Revised. Baltimore, Cushings & Bailey. 1885. Pp. 284.

Practical Surgery: Including Surgical Dressings, Bandaging, Fractures, Dislocations, Ligature of Arteries, Amputations, and Excisions of Bones and Joints. By J. Ewing Mears, M.D., etc. With Four Hundred and Ninety Illustrations. Philadelphia, P. Blakiston, Son & Co. 1885. Cloth, 12mo. Pp. 794.

A Doctor's Experiences in Three Continents. By Edward Warren, M.D., C.M., LL.D., Bey by Khedival Firman, etc. In a Series of Letters addressed to John Morris, M.D., of Baltimore, Maryland. Baltimore, Cushings & Bailey. 1885. Pp. 613.

Applied Medical Chemistry. A Manual for Students and Practitioners of Medicine. By Laurence Wolff, M.D., etc. Philadelphia, P. Blakiston, Son & Co. 1885. Cloth, 8vo. Pp. 174.

Milk-Analysis and Infant-Feeding. A Practical Treatise on the Examination of Human and Cow's Milk, Cream, Condensed Milk, etc.; and Directions as to the Diet of Young Infants. By Arthur V. Meigs, M.D. Philadelphia, P. Blakiston, Son & Co. 1885. Cloth, 12mo. Pp. 102.

Post-Mortem Examinations, with Especial Reference to Medico-Legal Practice. By Professor Rudolph Virchow, of the Berlin Charité Hospital. Translated by F. P. Smith, M.D., etc. With Additional Notes and New Plates. From the Fourth German Edition. Philadelphia, P. Blakiston, Son & Co. 1885. Cloth, 12mo. Pp. 138.

Epitome of Diseases of the Skin. Being an Abstract of a Course of Lectures delivered in the University of Pennsylvania during the Session of 1883 and 1884 by Louis A. Duhring, M.D. Reported by Henry Wile, M.D. Philadephia, J. B. Lippincott Company. 1886.

NEW REMEDIES AND CLINICAL NOTES.

Carbolic Acid in the Treatment of Malignant Pustule.—A case is reported by Dr. Buck of a veterinary surgeon, 31 years of age, who had the characteristic lesion of malignant pustule appearing upon the back of the right wrist exactly twelve days after examining an animal which had died with anthrax. The patient, on the third day after the blister was noticed, had a temperature of 104°; he had rigors and a coated tongue. Pure carbolic acid was injected under the livid spot, large and frequent doses of sodium hyposulphite were ordered, and the patient put on a meat diet. Four days later, carbolic acid was again injected. The patient rapidly recovered, but the eschar did not finally separate for nearly six weeks; the ulcer then soon healed. The result was attributed to the injection of the pure carbolic acid, which did not seem to be painful.—*British Medical Journal.*

Chloride of Calcium.—Dr. R. W. Creighton (in *The Practitioner* for September) says a good word for a remedy that has experienced great vicissitudes of fortune. In scrofulous manifestations, with or without attendant suppuration, this salt of lime he found to produce admirable results. The effects of lime salts upon the heart, in increasing its force, have been established by Sydney Ringer's experiments, and were observed clinically by Dr. Creighton. The crystallized chloride of calcium is given in doses of one, two, or three grains for young children, and rarely more than twelve or fifteen for adults. Coghill's formula of five ounces of the crystallized salt in twelve fluidounces of syrup is the preferred form of administration, in doses of five to sixty minims, according to age. It is usually given in milk after meals.

Quinine for Hypodermic Injections.—Dr. L. Aitken advocates the hypodermic administration of quinine in acute intermittent fever, preferring the hydrochlorate and bisulphate, the latter being the cheaper. A mixture is made of pure glycerin and distilled water, of which six minims at the temperature of the body would readily dissolve one grain of the salt. To this two per cent. of carbolic acid is added. Thirty minims of this solution, containing five grains of the bisulphate, may be injected into the subcutaneous cellular tissue, and repeated if deemed necessary.—*British Medical Journal*, October 10.

Nitrite of Sodium in Gout-Epilepsy.—

℞ Sodii nitritis, gr. xxxvj;
Sodii hippuratis, ʒiij;
Inf. serpentariæ, q. s. ad fʒxij. M.

One ounce to be taken before meals, three times a day. The sodium nitrite should be carefully increased until it reaches fifteen grains, although some cases yield to ten grains. In case there is constipation and jaundice the following may be used:

℞ Iridin, gr. ij;
Ext. cascaræ sag., gr. iij. M.
Ft. pil.

To be taken at night, and repeated each night until the symptoms are overcome.—J. M. Granville, *Brit. Med. Journ.*, p. 700.

Nitrite of Amyl in Gout.—One of the effects of inhalations of nitrite of amyl in health is to increase the quantity of urine and its contained uric acid. Dr. A. D. Macdonald, of Liverpool, having tried to utilize this property in the treatment of a paroxysm of

gout, found that it had the same effect upon the excretion of uric acid, and gave speedy relief. It was given in the usual doses (ℳiv to v) by inhalation, repeated several times, at intervals of two hours. It is suggested that it may be also employed as a prophylactic when an attack is threatened.

MISCELLANY.

A POST-MORTEM IN PUBLIC.—A valued correspondent sends a clipping from the *Providence Journal* of October 18, 1885, concerning a post-mortem held in a public cemetery in Newport the day before:

"The remains were taken from the coffin and placed upon the lid of the outside box, which was used as a dissecting-board. A search was first made for the ball which was fired into the breast. The ball penetrated the skin three inches inside of the left nipple, going through the left ventricle, passing the eighth and ninth ribs about three inches from the spine, where it was lost. The heart and liver were removed from the body, and the greater part of the intestines also, by which action the physicians were enabled to reach the conclusion as to what effect his shot would have. For over an hour a search was made for the ball, but after a large quantity of the flesh had by a process of chopping been reduced as small as mince-meat the effort to discover its whereabouts was given up, and attention was given to the wound in the head. The hole in the scalp is some two inches from the top of the right ear. The scalp was thrown back and sawing was commenced. The brain was very large indeed. Considerable dissecting had to be performed, and finally the bullet was found in the posterior portion of the cerebrum of the left side. Almost immediately Dr. —— exclaimed, 'That proves that it did not wound the cerebellum.' The finding of the ball in the head was a matter of much satisfaction, of course. The remains were then put together in the coffin and reinterred."

He adds some vigorous comments, which express the sentiment of a number of the medical profession upon this extraordinary occurrence:

"The cemetery is very accessible, and it is exceedingly fortunate that comparatively few knew of the intended operation. The poor man was supposed to have committed suicide, but, some doubt having arisen, and ugly rumors having gained some circulation, the post-mortem was ordered, with all the disgusting details already quoted. In the first place, the subject was a colored man; but certainly his poor family were entitled to as much consideration as any white people. It is no legitimate excuse to urge that he was simply a nigger! What interests the community most is the fact that under the same officers such scenes can be and perhaps may be repeated.

"To remove a body from its grave and coffin, and use the outside coffin for a dissecting-table, and then calmly, in the sight of the populace, to 'chop the body into mince-meat,' is a spectacle so disgusting and an operation so beneath the dignity of professional gentlemen that words fail sufficiently to condemn the act!

"In a large experience, I have never known of such an outrage upon both dead and living, and such a prostitution of professional power. Those concerned in it have certainly disgraced themselves by being present, and the sooner they realize this fact the better for all concerned.

"Unquestionably we need a dead-house or morgue, but until one is provided let the dead be respected by decent treatment under suitable shelter, and in some retired place away from the eyes of those who have no right to see.

"Such proceedings debase the witnesses, and as illustrations of barbarism rank with the deeds of vigilance committees or the public hangings of frontier towns."

OLEOMARGARINE AND BUTTER SUBSTITUTES.—The recent suits in the courts against the stringent laws prohibiting making or selling oleomargarine have been generally successful in establishing the proposition that the manufacture of imitation butter is not in itself wrongful and cannot be absolutely prohibited. This at least is the purport of the recent decision in the New York Court of Appeals. In this State (Pennsylvania) a test-suit is pending, with every probability of a corresponding result being obtained. It appears, therefore, that the only province of the legislative bodies is to enact as stringent laws as they deem proper to prevent the manufacture or sale of oleomargarine under the guise of genuine butter.

There is now another decision in a New York court of considerable interest on the general subject of adulteration.

The statute says that milk to be salable must not contain more than eighty-eight per cent. of water or liquids, and a violation of this provision was the subject of a recent prosecution. In defence the milkman claimed that, while the milk was not of the proper standard, it was just as it came from the cow, and offered to prove this statement. He was not allowed to do so, and a conviction resulted. An appeal having been taken from this verdict, the conviction was reversed, on the ground that the Constitution forbade the Legislature from taking away private property without just compensation, and this would be the practical result of the conviction.

The case was reopened, and the milkman will have an opportunity of proving his statement if he can.

ANTI-VACCINATION EXCITEMENT IN ENGLAND.—The furor against vaccination in some

parts of England is hardly intelligible in this country, where the opposition has been comparatively slight. The agitation is ostensibly directed towards compulsory vaccination, which the law gives the health-officers power to require, but practically shows an entire disbelief in the efficacy of vaccination in any case. This is shown by the fact that Dr. Jenner was recently hung in effigy in one of the large towns in central England, while a horse and cow were exhibited in wagons to bring ridicule upon the source of the great physician's remedy. A coffin on an open bier symbolized the results of the discovery. The fact that occasionally serious harm has resulted from impure vaccine matter has been taken advantage of by the opponents of the system, and it has had great effect upon the ignorant masses.

The vast accumulation of statistics showing the beneficent results of vaccination have been published again and again, but without having much apparent influence upon the agitation.

RESPONSIBILITY FOR DAMAGE DONE BY SEWAGE.—A recent English decision enforces the health-laws by requiring a person to take proper care of the sewage from his house. It appeared that it percolated through the ground and entered the well of a neighbor, rendering it unfit for use. Under these circumstances, it was held that the plaintiff was entitled to an injunction forbidding the discharge of the offensive matter in the way it had been.

DEATH OF PROF. MCSHERRY, OF BALTIMORE.—A special meeting of the Medical and Chirurgical Faculty of Maryland was held October 10, to take action upon the death of the late Prof. Richard McSherry, M.D., whose loss is universally felt in the city where he had practised medicine since 1851. At the time of his death he was Professor of Theory and Practice of Medicine in the University of Maryland, and President of the State Board of Health.

DR. BENJAMIN LEE has removed his offices and Hall for Remedial Exercise and Massage to No. 313 South Fifteenth Street. He continues to reside on Manheim Street, opposite McKean Avenue, Germantown.

THE Ninth Annual Meeting of the American Academy of Medicine was held at the New York Academy of Medicine, 12 West Thirty-first Street, New York, on Wednesday and Thursday, October 28 and 29, 1885. A report of the proceedings will appear in our next issue.

"COLDEN'S LIQUID BEEF TONIC," according to Dr. Benjamin H. Briggs, Selma, Alabama, is an excellent preparation of known composition, and it is one that physicians can intelligently prescribe. He has found it of great service in his practice.

DR. A. VAN HARLINGEN has removed his office to No. 118 South Seventeenth Street.

DR. T. H. BRADFORD has removed to No. 125 South Eighteenth Street.

DR. W. H. PARRISH has removed to 1435 Spruce Street.

NOTES AND QUERIES.

A CORRECTION.

Dr. Stanley Sutton writes that in the report of the discussion of the proceedings of the American Gynæcological Association he did not make the remark credited to him on page 26, and that, in fact, his sentiments are really in accord with those of Dr. Chadwick, and not opposed, as was stated. Our apologies are due to Dr. Sutton for the mistake; and we regret that our report credited him with a remark made by another.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM OCTOBER 11, 1885, *TO OCTOBER* 24, 1885.

COLONEL T. A. MCPARLIN, SURGEON.—Directed to await further orders in New York City. Letter from A. G. O., October 19, 1885.

LIEUTENANT-COLONEL E. P. VOLLUM, SURGEON.—Assigned to duty as Attending Surgeon, Headquarters Department of the Platte, Omaha, Nebraska, relieving Assistant-Surgeon William C. Shannon. S.O. 103, Department of the Platte, October 15, 1885.

LIEUTENANT-COLONEL B. J. D. IRWIN, ASSISTANT MEDICAL PURVEYOR.—Ordered from Department of Arizona to New York City, for temporary duty in charge of Medical Purveying Department at that place, relieving Captain Henry Johnson, Medical Storekeeper. S. O. 233, A. G. O., October 10, 1885.

MAJOR ANTHONY HEGER, SURGEON.—Directed, in addition to his present duties as member of Army Medical Examining Board now in session in New York City, to perform the duties of Attending Surgeon in that city. S. O. 240, A. G. O., October 19, 1885.

MAJOR JOSEPH C. BAILY, SURGEON.—Granted leave of absence for twenty days. S. O. 225, Department of the East, October 19, 1885.

FIRST-LIEUTENANT EDWARD R. MORRIS, ASSISTANT-SURGEON (recently appointed).—Ordered for duty in Department of Missouri. S. O. 233, A. G. O., October 10, 1885.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FROM OCTOBER 11, 1885, *TO OCTOBER* 17, 1885.

PASSED ASSISTANT-SURGEON J. B. BALDWIN.—Detached from Naval Hospital, Philadelphia, and ordered to Navy-Yard, Mare Island.

SURGEON D. DICKINSON.—Detached from Naval Hospital, Mare Island, and ordered to Training-Ship "Portsmouth," as relief to Surgeon A. M. Moore.

SURGEON A. M. MOORE.—Detached from Training-Ship "Portsmouth," and wait orders.

ASSISTANT-SURGEON JOSEPH SHAFER.—Detached from Receiving-Ship "St. Louis," and ordered to Naval Hospital, Philadelphia, as relief of P. A. Surgeon Baldwin.

ASSISTANT-SURGEON F. A. HESTER.—Detached from U.S.S. "Minnesota," and ordered to the "Tennessee," as relief of P. A. Surgeon Nelson H. Drake.

PASSED ASSISTANT-SURGEON NELSON H. DRAKE.—Detached from the "Tennessee" 31st instant, and wait orders.